DOCUMENT RESUME

ED 234 190 CE 036 901

AUTHOR	Hedl, John J.; And Others
TITLE	Identification of a Core Curriculum in Gerontology for Allied Health Professionals. Final Report.
INSTITUTION	Texas Univ., Dallas. Health Science Center.
SPONS AGENCY	Texas Education Agency, Austin. Dept. of Occupational Education and Technology.
PUB DATE	Jun 82
NOTE	132p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Aging (Individuals); *Allied Health Occupations Education; Allied Health Personnel; *Core Curriculum; *Curriculum Development; Dental Assistants; Dental Hygienists; *Educational Gerontology; *Educational Needs; *Educational Planning; Occupational Therapy Assistants; Older Adults; Physical Therapy Aides; Radiologic Technologists
IDENTIFIERS	Respiratory Therapists

ABSTRACT

The overall goal of this project was to identify a core curriculum in gerontology for seven allied health professions (radiologic technologist, radiation therapist, respiratory therapist, dental hygienist, dental assistant, physical therapy assistant, and occupational therapy assistant). The project also identified the current state of gerontology education in these seven disciplines and recommended curricula. Data were gathered through consultation with the professional organizations associated with the seven disciplines and by a mailed survey to national and state samples of educators and practitioners. Analyses of data resulted in the identification of four core areas that showed agreement for all groups: psychology of aging, physiology of aging, pathology, and communication skills. Additional clusters of topics were identified for several of the disciplines. A curriculum outline for each of the four areas was then developed, complete with objectives, learning exercises, media resources, and references. The data also suggested that current educational programs in the disciplines lacked information on gerontology. Recommendations were made for incorporation of gerontology education into inservice education programs for these occupations. The project recommended that the curriculum developed through this project be used to upgrade the training of these personnel to improve their care of the elderly. (KC)

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Identification of a Core Curriculum in Gerontology for Allied Health Professionals

Final Report

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This material was prepared under a grant from the Research Coordinating Unit, Department of Occupational Education and Technology, Texas Education Agency, Austin, Texas, June 1982.

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Acknowledgements

The project staff are deeply appreciative of the efforts of a number of individuals in the conduct of this project. The sixteen advisory committee members were very helpful in the early phases of the project in delimiting possible curriculum topics. Selected members also contributed to pilot testing of the survey instruments. Terri Laskey, a senior student in the Department, did a nice job of the content analysis of the seven sets of accreditation standards or curriculum guidelines. Frank Burns and Patsy Moore were invaluable in the mail survey phase of the project. Data reduction and analyses were conducted by several staff members of the Medical Computing Resources Center; Kent Dana was responsible for running many of the computer data analyses. Secretarial assistance was provided by Patsy Moore during the entire project. A special thanks to Terri Flowers for preparing the final report on the School's word processor.

Collectively, these efforts resulted in a project with implications, we hope, for upgrading the teaching of gerontological content of allied health programs. Without the support of the Texas Education Agency, this project would not have been possible.

SUMMARY
IDENTIFICATION OF A CORE CURRICULUM
IN GERONTOLOGY FOR ALLIED HEALTH PROFESSIONALS

STATEMENT OF NEED

While it is difficult to project the future training needs for allied health personnel, all indications are that gerontology and geriatrics will become essential content areas within allied health curricula over the next few decades. The National Commission on Allied Health Education (1980) points out that "the need for well trained personnel to care for the aged...is critical" and such personnel "will be increasingly in demand, both in institutional and non-institutional settings."

Increases in the Texas population parallel those of the nation as a whole. Between 1940 and 1980, while the total Texas population was doubling, the number of Texans 60 years of age or older was increasing threefold. Texas has the fifth largest 60+ population in the United States, exceeded only by California, New York, Pennsylvania, and Florida (GCOA, 1980).

OBJECTIVES

The overall goal of the project was to identify a core curriculum in gerontology for seven allied health professions. The professions selected for analysis were radiologic technologist, radiation therapist, respiratory therapist, dental hygienist, dental assistant, physical therapy assistant, and occupational therapy assistant. These professions were selected because of their high levels of patient/provider interactions. Laboratory professions (e.g., Medical Laboratory Technician) were specifically excluded in this study.

This project also identified the current state of gerontology education in the seven disciplines under study. The data and resultant curricular

recommendations can be used as the basis for curriculum development, teacher training in allied health, and the implementation of needed curricular changes in the occupations with high patient/provider contact.

PROCEDURES

A first phase of the project reviewed the recommendations and/or requirements of the professional organizations in the seven disciplines. A content analysis of these materials found that little or no gerontological content is required within the disciplines for accreditation. Five of the documents reviewed contained no reference to gerontology, and in the four that did contain topics, this material accounted for less than 1/10th of one percent. This finding led project staff to the conclusion that, although it is recognized on a national policy level that gerontology should be included in the education of health professionals, it has not as yet been translated into curriculum standards among a number of allied health disciplines.

The second, and major, phase of the project studied gerontology consensus areas between educators and practitioners in the seven disciplines. Based upon the responses of the advisory committee, an initial list of 87 possible content areas identified by project staff on the basis of an extensive literature review, was reduced to 48. Given the large variability between the advisory members, it was decided to conduct a large mail survey to elicit information concerning current educational and clinical practices both in the cognitive and clinical areas. For the educators surveyed, additional information as to depth of presentation, mode and setting of presentation, and resources used was collected.

Based upon the responses of the national and state samples of educators and practitioners from seven disciplines, a series of analyses were conducted

using parametric statistics to examine similarities and differences between and among the fourteen groups. Factor analyses were also conducted to examine underlying groups of related content areas which could comprise logical teaching units. These analyses resulted in the identification of four core areas that showed consensus agreement for all fourteen groups: psychology of aging, physiology of aging, pathology, and communication skills. Additional clusters of topics were identified for several of the disciplines. A curriculum outline for each of the four areas was then developed by project staff complete with objectives, learning exercises, media resources, and references. These have been presented under Objective 4 in the technical report.

Analyses of the data also indicated that the majority of respondents felt that gerontology education was important in their field. However, the analyses of the topics that are currently being taught, the mode and depth of presentation, and resources used indicated considerable variability between and among the disciplines. Only a small number of the 48 content areas were taught by as many as 25% of the programs surveyed. If the content was taught at all, most of the programs reported that lecture was the predominant mode of instruction. A significant number of programs appear to assume that clinical exposure to older patients is sufficient for students to learn about gerontology. Analyses of the resources used suggested that many of the current allied health faculty are unaware of the basic references in the field. Thus, although educators felt that the topics are of importance, these data suggest that continuing education programs directed toward educators might be perceived positively and have considerable impact in improving the teaching of gerontology in allied health education.

Specific Results to be Produced

A critical objective of this project was to identify a set of core knowledge and skill areas in gerontology/geriatrics for seven allied health disciplines having significant patient/provider contact. The four areas identified through statistical consensus techniques formed the basis of a curriculum guide designed to aid allied health educators to implement the teaching of these areas into ongoing programs and classes. The curriculum guide contains objectives, suggested learning activities, available media resources, and additional references. The use of consensus techniques between educators and practitioners was used to facilitate adoption of the gerontological concepts more readily by the educators.

Potential Utilization of Results

The results from this project have implications for the teaching of gerontology in a variety of health care settings and educational environments. Community colleges, hospital-based programs, health magnet high school programs, and other training programs for allied health professionals can use these guidelines and recommendations to develop self-standing courses in gerontology or to integrate topics in gerontology into existing courses and clinical experiences. This would strengthen those aspects of the professional curriculum that deal with life-span issues. The guidelines and recommendations can also be used in formative and summative evaluation of curricula that possess gerontology coursework. The guidelines and recommendations may serve as an impetus to allied health educators who wish to teach gerontology topics but who lack the available resources and knowledge in the area. Lastly, integration of these topics into the curricula should aide the allied health programs in meeting the need for well-trained allied health personnel to care for the increasing population of elderly Americans.

Introduction

One of the most striking demographic trends of the twentieth century has been the aging of the United States population. In 1900, the average human life expectancy was 47 years and only 4% of the population were 65 and older. In 1978, with an average life expectancy of about 73 years, there were 24.1 million persons aged 65 and older, and they made up about 11% of the total population. By the year 2020 it is expected that those over 65 will number nearly 40 million. "The major part of the increase occurred because of reduced death rates for children and young adults. More people now reach old age, but then do not live much longer than their ancestors" (Facts About Older Americans, 1979).

The advanced old age population (75+) has increased more rapidly than the early old age population (65-74). Census reports indicate that the 75+ age group is the fastest growing segment in the U.S. population. At present death rates, the older population is expected to increase 32% to 32 million by the year 2000 (Facts About Older Americans, 1979). This has implications for the demand on certain health care services and financial assistance.

Some of the reasons for the rapid growth of the aged population in America are:

1. the large number of immigrants who came to the U.S. prior to World War I;
2. the increased number of births between 1875 and 1920;
3. the virtual elimination of many diseases once considered fatal; and
4. better nutrition.

Increases in the Texas population parallel those of the nation as a whole. Between 1940 and 1980, while the total Texas population was doubling, the number of Texans 60 years of age or older was increasing threefold. Texas

has the fifth largest 60+ population in the United States, exceeded only by California, New York, Pennsylvania, and Florida (Governor's Committee on Aging, 1980).

One important consideration for health care with this increasingly older population is that the likelihood of developing a chronic ailment increases dramatically with age. Over 80% of older people have at least one chronic condition and multiple conditions are common. Although this does not mean that this population segment will require institutional care, it does indicate a greater need for health services.

One example of this increase is the utilization of physician services. Persons under age 65 average 3.2 physician visits per year; individuals 65-74 in age average 4.8 visits, and those over 75, 5.1 visits. The hospitalization rate for persons 65 and older is two and a half times greater than that of younger persons. This group accounts for 25% of total hospital stays. In addition to a higher incidence of hospital admissions, older persons stay in the hospital longer than younger persons.

The National Center for Health Statistics has developed estimates for health care utilization rates in the next two decades. By the year 2000, persons 65 and older will represent 12% of the U.S. population but will consume 36% of short stay hospital days and will make up 17% of all visits to physicians' offices. Nursing home utilization is predicted to be the fastest growing segment of health care. The nursing home population, of which 89% are over age 65, is expected to increase by about 49 percent (Ernst, 1980).

Need for Gerontology Training

While it is difficult to project the future training needs for allied health personnel, all indications are that gerontology and geriatrics will become essential content areas within allied health curricula over the next

few decades. The National Commission on Allied Health Education (1980) points out that "the need for well trained personnel to care for the aged...is critical" and such personnel..."will be increasingly in demand, both in institutional and non-institutional settings." The National Commission suggests several influences which account for the increased demand. Five of these related influences are (1) shifting demographic patterns; (2) increasing use of long-term care facilities; (3) changing employment patterns; (4) intensifying role of the federal government in providing better access to health care for the aged; and (5) the growth in the utilization rate and the broadening of types of services offered to the elderly by allied health personnel.

Research findings indicate that there are more people over 65 in nursing homes (1.3 million) at any one moment than in hospitals (Butler, 1980). Even current employment statistics suggest that about two-thirds of all allied health personnel work in settings other than hospitals, i.e., nursing homes and private group practices. Between 1960 and 1976, in the nursing home industry alone, there was a 550 percent increase in the number of employees (from 100,000 to 650,000); a 140 percent increase in the number of nursing homes (from 9,582 to 23,000); a 301 percent increase in the number of nursing home beds (from 331,000 to 1,327,358); a 245 percent increase in the number of patients (from 290,000 to 1,000,000); and a 2,000 percent increase in revenues (from $500 million to $10.5 billion) (NCAHE, 1980).

As a result, fifty-seven cents out of every federal dollar related to age through Medicare, Medicaid, and veteran's benefits and 30 percent of all doctors' time and hospital time are spent on older people. Projections indicate that between the years 2020 to 2030 approximately 75 percent of health provider time will be spent on older people. Expenditures for the

institutionalized elderly alone have been estimated to be between $40 and $45 billion a year in 1980 dollars for the years 2020 through 2030 (Allan and Brotman, 1981). Expectations are that the federal government will exercise greater control over the nursing home industry, tightening standards and causing an upgrading of both facilities and personnel, particularly well-trained allied health personnel. In addition, as the federal emphasis shifts to alternatives to institutionalization there will be an increasing demand for competent, well-trained professionals who understand the elderly and their needs (NCAHE, 1980).

One alternative to institutionalization alone, Homemaker-Home Health Aide, Inc., currently indicates a personnel shortage of 350 percent (85,000 rather than 300,000). Certainly, such shortages will increase, as the federal emphasis shifts. However, this is not to de-emphasize the traditional interaction of allied health professionals with the elderly. For instance, 2,000,000 hip fractures alone are seen on an annual basis in this population.

Such characteristics and trends have several implications for allied health education and practice in which gerontological issues, for the most part, are currently being addressed in a very limited fashion. Additionally, it is anticipated that a greater emphasis will be on the long-term "social care" of the aged, rather than fragmented health care (Papsidero, 1980) and on alternatives to institutionalization due to cost-effectiveness (USDHHS, 1979).

Whatever the treatment approach and/or the treatment setting, several qualitative and quantitative issues affect the ability of the allied halth professional to appropriately interact with the elderly. For many, knowledge of methods for working with the elderly have been gained through experience, not coursework (Robinson, 1981). Gerontological content areas are only beginning to receive attention within the often highly structured health curricula.

For example, dental schools have identified the need for geriatric training programs in the professional curriculum and many schools are in the process of developing educational programs (Thomas, 1981). A second example is the National Occupational Therapy Association that currently suggests the entire life span be covered in classroom and clinic. The reality, however, is that gerontology topics are rarely covered and then only in a cursory manner.

Clinical affiliations provide another example. The most common clinical affiliation site for most allied health programs is the hospital, but it is increasingly recognized that a need exists to expose students to a wider variety of clinical settings. Additionally, a recognized need is for students to be provided with exposure to various combinations of teamwork in clinical training, leading to a better understanding of the interplay of roles and functions of different health practitioners in different settings (Kappelman, et al., 1981). "Educational studies and expanded clinical experiences in the field of aging can sensitize and increase the future health practitioner's capability to respond to the needs of the increasing aged population" (NCAHE, 1980, p. 95). This is particularly relevant to the relationship of the allied health professional and the elderly; however, most allied health faculty and administrators are unaware of the various community aging networks and the potential resources that the networks can provide.

Postsecondary allied health programs have been criticized as providing "inadequate exposure and concern for interdisciplinary knowledge of the aging process and less than adequate training in the care of the elderly" (Cates, 1980). A telephone survey by project staff of selected allied health educators in Texas in a number of patient-provider fields confirmed this

finding. All respondents recognized the need for an increasing and more indepth consideration of gerontology content. Respondents did indicate that some efforts were being initiated to address this concern through curriculum revision and/or elective offerings. However, it was the consensus of these educators that research was needed on the exact topic areas to be included, the scope and depth of needed topics, available resources appropriate to allied health professions, and a better understanding of clinical skills to be taught in alternate settings. Additionally, a need for consistency in content and collaboration of efforts was expressed.

Although this survey indicated some electives available, past experience suggests that the majority of the allied health students who enroll in elective gerontological courses are either (1) young allied health students who are entering a field where they will be involved with the elderly and want to find out more about their future clientele; or (2) allied health practitioners involved with the aged, seeking to gain knowledge and skills to do their jobs more effectively (Nechasek, 1980). This method does not appear to lead to a consistent exposure to gerontological content for all students.

Offering gerontological content to students, practitioners and faculty in a continuing education context has also been found to be an effective and efficient mechanism for dissemination, since this permits allied health practitioners access to new information and skills in gerontology while continuing full-time employment (Cates, 1980; Hickey, 1975). For allied health faculty members such experiences tend to add a new dimension to their current teaching role (Nechasek, 1980) since good health care and the alleviation of health related problems for the elderly is largely a function of the adequacy of a multidisciplinary health approach. Teaching from an

interdisciplinary perspective appears to fulfill the need for comprehensive care and for advocacy services for the elderly.

If allied health professionals are to be adequately and appropriately trained to meet the expanding needs of the elderly, it is imperative that current providers and allied health educators begin immediately to include gerontology topics in their curricula. To accomplish this, identification of content areas within gerontology and geriatrics appropriate to particular allied health professions must be made. This would be the initial step toward the preparation of resource materials prepared for a wide range of allied health occupations on an apporopriate level and topics appropriate to professional needs.

The identification of the (1) known needs of allied health providers; (2) appropriate levels of presentation; (3) appropriate mode of presentation (cognitive, clinical/knowledge, skill) and preferred topics for allied health practitioners has not been completed. Some researchers have undertaken initial steps in particular disciplines. Hickey (1975) surveyed health practitioners in Pennsylvania while Popsidero, Kroger and Rothert (1980) identified the educational needs for nursing assistants in long-term care settings. The Gerontological Society and the Association for Gerontology in Higher Education have published the findings from their Foundation's project (funded by AoA) which attempted to identify core competencies for several baccalaureate and graduate level professions which provide persons to the field of gerontology (Johnson et al., 1980). This project agreed that there is a needed core curriculum in gerontology for the professions studied but did not define this core for allied health professionals on the postsecondary level. Additionally, no attempt to study level of content needed, modes of presentation to be undertaken, or needed clinical competencies was made.

This report presents the results of a study whose goal was to determine a core curriculum for seven allied health professions and additional content areas for the specific disciplines. Needed content areas and current status of gerontology education in these areas were explored.

Recommendations include a core curriculum of four major areas and a proposed topic outline for additional content for each profession. The remainder of the report is divided into four sections each of which reflects a major objective of the project. Results of each phase of the project are reported by objective.

OBJECTIVES

The overall goal of the project was to identify a core curriculum in gerontology (cognitive, clinical/knowledge, skill) for seven postsecondary allied health professions. The professions selected for analysis included dental assistant, dental hygienist, occupational therapy assistant (OTA), physical therapy assistant (PTA), radiologic technologist, radiation therapist, and respiratory therapist. These professions were selected because of their high levels of patient/provider interactions. Laboratory professions (e.g., medical laboratory technician) were specifically excluded in this study.

In order to meet this goal, the following objectives were accomplished:

1. To assess the current content pertaining to gerontology/geriatrics in the selected allied health professions.
2. To identify the needed content areas in gerontology/geriatrics in the selected allied health professions.
3. To conduct a discrepancy analysis of educators and practitioners based on identified content areas and current practice.
4. To design curriculum guidelines to meet the needs identified.

The outcomes of this project were to identify the current state of gerontology content in the direct patient contact allied health professions. The

data and the resultant curriculum recommendations can then be used as the basis for curriculum development, for teacher training in allied health, and in implementation of needed curriculum changes in the occupational programs.

Objective 1: To assess the current content pertaining to gerontology/ geriatrics in selected allied health occupations.

In order to meet this objective, project staff undertook three coordinated activities: (1) utilization of an interdisciplinary advisory committee, (2) a content analysis of educational guidelines or essentials in each of the allied health fields under consideration, and (3) a review of the literature on gerontological education.

(1) Advisory Committee. A sixteen member advisory committee was established and consisted of the following members:

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Project staff and this committee discussed possible curriculum recommendations, and committee members served as participants in the Delphi study to determine possible content areas for gerontological allied health education.

(2) Content Analysis of Accreditation Standards

Within the allied health occupations, the professional organizations have provided a list of curriculum areas that must be included within educational programs in order for those programs to be accredited. A content analysis of the essentials in the seven disciplines under consideration was completed in order to determine the current status of gerontological content requirements from a professional organization perspective. Two companion disciplines (physical therapy, occupational therapy) were included for comparison purposes. It was felt by the researchers that the essentials and guidelines would reflect the importance of various topic and skill areas from an accreditation viewpoint.

The following essentials and/or guidelines were used in the completion of the content analysis:

Physical Therapy Assistant - curriculum standards as adopted from the National Association of Physical Therapy (including assistant's)

Occupational Therapy Assistants - curriculum essentials as adopted by the American Society of Occupational Therapy and Assistants.

Occupational Therapist - essentials of an accredited educational program for the Occupational Therapist established in October 1972, currently under revision.

Radiologic Technologist - essentials and guidelines of an accredited educational program for the radiographer revised in 1978 by the American Society of Radiologic Technologists.

Radiation Therapy Technologist - essentials and guidelines of an accredited educational program for the radiation therapy technologist, revised in 1976 by the American Society of Radiologic Technologists.

Dental Assistant - accreditation standards for dental assisting education program adopted by the American Dental Assistants Association in 1980.

Dental Hygienist - accreditation standards for dental hygiene education programs adopted by the American Dental Hygienist's Association in 1980.

Dental Hygiene Guideline - curriculum guidelines for dental hygiene education programs adopted by the American Dental Hygienist's Association in 1977.

Respiratory Therapist - curriculum planning guide for respiratory therapy education adopted by the American Association of Respiratory Therapists in 1981.

Content analysis is an investigative technique used to systematically and objectively identify specified characteristics of messages. This method is particularly useful when the problem under study requires precise and replicable methods of analyzing aspects of written communication which may escape casual scrutiny (Holsti, 1968).

The following procedure was utilized in this study. The entire publication was reviewed noting the occurrence of any words or phrases relating to geriatrics and/or gerontology (aged, aging, geriatrics, gerontology, life span, old people, older adults, senility, senior citizens, 65 and older). For each word or phrase found, the relevant passage was abstracted. Space allocation was calculated. To determine space allocation,

the number of lines devoted to the key word or phrase was counted. Any part of a line was counted as an entire line. If a sentence ran for six printed lines but only two lines were concerned with the topic; only two lines were counted. Space allocation was determined for each occurrence and for the entire publication. The results of the content analysis for each publication are found in Table 1.

Insert Table 1 about here

Four of the nine guidelines/essentials contained some reference to gerontological topics. The occupational therapist essentials contained the passage "developmental tasks and needs in each period from birth to death." The occupational therapy assistant essentials contained four passages. These were: "describe appropriate life tasks as related to the developmental process from birth to death; description of life tasks of infants, pre-schoolers, school-age children, adolescents, adults, middle-aged, and aged; death and dying; and ... high risk factors such as aging and poor environment".

The curriculum guide in radiologic technology contained six topics: understand and perform correctly radiography of the pediatric, geriatric and psychiatric patient; adjust procedures to cope with the conflicting behavior of pediatric, geriatric and psychiatric patient; explain a specific examination to an elderly patient in such a way as to alleviate anxiety; discuss the meaning of illness to the child and to the elderly adult; and describe methods of caring for the senile, semi-conscious, or unconscious patient-senile osteroporosis.

The curriculum guide for dental hygiene education also contained six topics: describe nutritional needs of the following stages of life: old age;

modify meal planning for an elderly patient; the psychological and sociological effects of aging; identify the physiological phenomena which affect dental hygiene care for the geriatric patient; provide quality dental hygiene care for patients with special needs: geriatric patients; and compare the poverty rate for: persons 65 years old and over to persons under 65 years.

Five of the professions' guidelines/essentials contained no references to gerontological topics. In those four professions that did include topics, this material was less than one-tenth of one percent of the total required content areas.

It should also be noted that in the survey conducted two professions (radiation therapy technologist, respiratory therapist) reported larger than to be expected elderly patient populations (30-35% elderly patients are compared to 11% of total U.S. population). Yet neither of these professions require gerontological content to be included within accredited training programs.

It can be concluded that content analysis of the guidelines/essentials demonstrated that current requirements for gerontological education in these professions are quite limited. It can be expected then that inclusion of gerontological content within the training for these disciplines is dependent upon the interest and knowledge of individual educators and will, therefore, be highly variable across and within disciplines.

(3) Literature concerning Gerontological Curriculum

A literature review concerning curriculum development in gerontology was undertaken to generate a list of initial topics that might be included in a gerontological core curriculum within the seven professions. Recommendations from the essentials/guidelines could not be formulated due to the lack of topics identified.

Although the literature concerning the aged person and the process of aging is large and increasing yearly, few materials aimed at curriculum development within specific health professions were located. The professions that did offer guidelines or materials for review including medicine, nursing, dentistry, social work, and psychology. Generally, these materials were aimed at graduate level education and were not appropriate to the postsecondary training level of the health professions under consideration.

The Foundations for Gerontological Education study undertaken by the Gerontological Society and the Association for Gerontology in Higher Education was selected as having the most viable suggestions of content topics for inclusion in this study. The Foundations study "focused on three specific areas of inquiry: (1) components of a basic core of knowledge essential for all people working in the field of aging, (2) knowledge essential for clusters of professions related to the biomedical sciences, human services, social and physical environment, and (3) knowledge essential for four professional fields: clinical psychology, nursing, nutrition and social work" (Johnson, 1980). Although none of the seven professions under consideration in this research were included in the Foundations study, the topics suggested provided a starting point.

A Delphi study to determine content areas to be included in a core curriculum for the professions was then conducted. The Delphi method is a research technique that collects and synthesizes expert opinions. By systematically bringing together and progressively refining information provided by a variety of informed individuals, the Delphi method facilitates the merging of diverse opinions into a collective judgment. If a consensus of judgments is reached, conclusions can be drawn and decisions can be made with

increased confidence. If no consensus is reached, the Delphi will have helped to specify alternatives (Helmer, 1966).

The first major step in conducting a Delphi study is the selection of qualified participants. The Advisory Committee which consisted of two recognized educators in each of the seven professions and two gerontologists were selected to participate. It was felt that this group represented an expert panel within the content areas under consideration. A cover letter, directions, and Delphi questionnaire were designed and distributed to the committee members.

Normally in a Delphi study, the first questionnaire asks respondents to list all possible solutions or alternatives in a free choice manner. In this study, it was decided to skip this step and move directly to the second step. In the second step, respondents are asked to rank or choose alternatives in order to establish consensus. This study started here by asking Advisory Committee members to rank the importance of preselected topics listed on the questionnaire. The topics selected were taken from those topics identified as important for consideration at some level by the Foundations study (Johnson, 1980) for nursing students. It was felt that this list had previously been generated by a panel of experts in the health fields and was representative of topics that would be duplicated by the Advisory Committee. This step was undertaken in order to reduce the time requirements for the volunteer committee.

The content areas comprised a list of 56 topic areas and 31 skill areas. Respondents were asked to read through the entire list and mark out topics not applicable to their allied health discipline. Space was left for respondents to add those topics not included that they felt should be included. Then

respondents were asked to rank the topics on a five point scale from most important (1) to least important (5).

The results of the rank ordering are presented in Table 2. In the right column, Table 2 lists the 87 topics included in the questionnaire. No additional topics were added by more than one respondent and no topics were rated not applicable by more than one respondent. Therefore, the initial 87 topics were included in the analysis. The mean of each topic's rating appears in the left column. The next column contains the frequency of response for each topic.

Insert Table 2 about here

From inspection of the means, one can see that only two topics (psychology of aging, communicating, working with elderly) have means less than 2.0. Further inspection of the means and the frequency distributions leads to the conclusion that there is a general lack of consensus regarding the importance of gerontological topics to be included in the education of allied health professionals. Therefore, it was decided to discontinue the Delphi study and move to a survey technique that would include a larger respondent group of both educators and health providers in these seven professions.

Objective 2: <u>To identify the needed content areas in gerontology/geriatrics in the selected allied health occupations</u>.

Given the large variance in the results of the Delphi with Advisory Committee members, it was decided to pursue an alternate strategy to identify the common core of topics. With approval of the project manager, project staff undertook a major survey of educators and practitioners. The major part

of the survey consisted of 48 content areas identified through the Delpni.

Those content areas on the Delphi that had (1) a mean less than 2.75, or (2) at least one rating of very important, or (3) no agreement on degree of importance by Advisory Committee were selected for inclusion in the mail survey. Topics not included in this portion of the study are marked with an asterisk (*) in Table 2. Those topics included because of variability of response are marked with two asterisks. Using the established criteria, 48 of the original 87 content areas taken from the Foundation (Johnson, 1980) study were included in the practitioners and educators survey.

In general, respondents were asked to rate the importance of each topic for their allied health field. For the educators, we also attempted to determine the types of clinical settings in which their students gained experience prior to graduation and nature of the patient ages. Similar questions were asked of the practitioners. In addition, educators were asked to indicate if the topic areas were taught, how they were taught (classroom, laboratory, clinical), and the approximate amount of time on the topic. Various background questions were also asked (e.g., age, sex, years of clinical experience, highest degree, etc.). Copies of the two survey instruments have been included in Appendix A.

The sampling plan of the survey by discipline and response rate is presented in Table 3 separately for educators and practitioners. For the educational programs, (1) all Texas programs in the seven discipline areas were contacted as listed in Health Careers in Texas published by the Texas

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Insert Table 3 about here

Hospital Association, and (2) random samples of programs nationally or all programs when the number was small were surveyed. The mailing lists for the national programs were obtained from the ninth edition of the Allied Health Education Directory. For the practitioners, random samples were generated from the most recent listings of licensed, certified, or registered Texas professionals published by either state associations or national associations. For physical therapy and occupational therapy assistants, however, surveys were mailed to all practitioners given their limited numbers.

As may be noted, the range of returns for educators was from 12.9% for dental assistants to 38.8% for dental hygienists. The overall return rate (after a second mailing to nonrespondents) was 25.9%. For practitioners the rate of return ranged from 19.2% to 37.7% with an overall rate of 22.2%. No second mailing was made. This rate of return is not unexpected given the length of the survey (six pages) and the fact that no incentive (other than a sense of professional responsibility) was offered. A summary of the results was offered to interested professionals and a relatively large number of respondents requested one.

For the survey of educational programs, 24 surveys (2%) were returned because the programs had gone out of existence. For the practitioners, 120 (13%) were returned for bad addresses. Where possible, additional programs or individuals were randomly selected from the listings and surveys were mailed accordingly.

Overall Characteristics of Respondents

Demographic data on the respondents are presented below separately for the educator and practitioner samples. The standard deviations for the continuous

variables and the percentages for the discrete variables are given in the parentheses.

	Educators (N = 341)	Practitioners (N = 254)
Mean age	39.0 (9.78)	33.24 (9.2)
Age range	26-66	21-68
Sex:		
Males	127 (37.2%)	55 (21.6%)
Females	214 (62.8%)	199 (78.4%)
Years of Clinical Experience	11.84 (8.2)	8.90 (7.2)
Years of Teaching Experience	9.51 (6.25)	-

Educators tended to be about 5.76 years older than the practitioners (significant $t = 7.30$, $df = 593$, $p < .0001$). Educators also had 2.9 additional years of clinical experience, on the average, than the practitioners ($t = 4.57$, $df = 593$, $p < .001$). There were also significantly more men among the educator respondents ($\chi^2 = 15.94$, $df = 1$, $p < .01$). The educators also reported approximately 10 years of teaching experience. Collectively, these data indicate that the educators were a more experienced and older sample than the practitioners, not an unexpected finding.

Patient Age Distributions

To examine the agreement between the distribution of patients' ages seen by students in their training and that seen by practitioners, both educators and practitioners were asked to estimate, in percentage terms, the percentage of their time spent with patients in seven age ranges (0-12, 13-19, 20-35, 36-50, 51-64, 65-69, over 80). These particular age ranges were included as representative of life stages.

Insert Tables 4 and 5 about here

Tables 4 and 5 present these data separately for educators and practitioners according to allied health discipline. Analysis of these data indicated relatively good agreement between the educators and practitioners. The Pearson product-moment correlation was .94 ($p < .01$, $df = 5$) between the percentages across the seven age ranges for the educators and practitioners for all disciplines collectively. The allied health discipline with the lowest r (.59, not significant) was occupational therapy assistant. Basically, these practitioners estimated that they saw twice as many patients (24%) in the 0-12 age range than the educators estimated that their average student saw during his/her basic professional preparation. The range of correlations for the other six disciplines was .81 to .98 (all significant beyond the .05 level) with a mean r of .94. Five disciplines showed r's of .95 or higher.

Gerontology Topic Ratings

Both practitioners and educators were asked to rate the importance of each of the 48 content areas. Each topic was to be considered concerning its importance to the respondent's allied health field on a five point scale where 1 = very important and 5 = very unimportant. Table 6 contains the results of these ratings. For each topic, the percentage of educators and practitioners that responded very important (1) or important (2) are shown by discipline.

These percentages were then utilized to identify the core topics shown in Figure 1. Four topics were identified as belonging to a core: psychology of aging, physiology of aging, pathology, communication skills. These topics met the criteria of at least 70% agreement on importance by both educators and

practitioners regardless of discipline. This strict criterion level was selected to facilitate adoption of the core curriculum materials. This criteria was also used for additional analyses to identify commonalities among subsets of the disciplines.

Insert Table 6 about here

Additional core clusters were identified for four combined disciplines and three combined disciplines. These were combined both on observed agreement and the idea that occupational therapy assistant, physical therapy assistant, dental assistant and dental hygienist are more patient care oriented disciplines while respiratory therapy, radiologic technology and radiation therapy are more technically oriented.

The patient care cluster includes ten topics while the technology core cluster contains only two. Clusters for other combinations and core topics specific to professions were also identified and are presented in Figure 1. This figure also lists eleven topics that did not meet the importance criteria for any of the seven professions.

The results of this analyses identified basic topics that should be included in the initial training of the allied health professional. The observed clusters could be used to develop interdisciplinary course offerings with content specific to disciplines taught within other courses or as individualized course offerings.

General Aging Questions

Two questions were asked of both the educators and practitioners:

> Do you feel that gerontological topics should be required in the basic preparation for your health care profession?

Do you feel that patients over 65 have problems or conditions that are different from patients under age 65?

Responses could range on a five point scale from definitely yes (1) to definitely no (5). Table 7 presents the percentage of positive responses for these questions separately by allied health discipline.

Insert Table 7 about here

Analyses of these data consisted of a series of 2 x 2 chi squares (with correction for continuity) and Fisher's exact test where appropriate for an overall educator versus practitioner comparison and then separately by discipline. For the first question, the overall comparison was not significant ($\chi^2 = 1.73$, $\underline{df} = 1$). Educators (82.8% positive responses) and practitioners (86.8% positive responses) showed similar positive responses (definitely yes or yes). For six of the individual comparisons, nonsignificant findings were found. But, for radiologic technology, practitioners showed a significantly higher positive response rate (96.6%) in comparison to the educators (81%) (Fisher's exact probability = .0003). This discrepancy between the radiologic technology educators and practitioners was also noted in the analyses of the 48 content area ratings.

The overall chi square analysis for the second question again showed a similar positive response rate for the educators (89.6%) and the practitioners (91.9%). Again, six of the individual discipline comparisons were not significant. However, respiratory therapy practitioners uniformly felt that patients over 65 have unique problems (97.7%) compared to the educators (87.1%) in this discipline. These results indicate that the allied health fields do feel that older adults have unique problems and this supports the

response on the first question concerning the requirement of including gerontology topics. This is a clear indication of the need for allied health educators to include the identified content areas in the basic curriculum.

Analysis of Teaching Strategy Data

As part of the survey, educators were asked to indicate the manner in which each content area, if taught, was delivered to the students. The educators could indicate whether the topic was taught in the classroom (lecture), laboratory, or handled through clinical experience or any combination of these teaching strategies. These data are summarized in Table 8 for the 48 content areas and methods of instruction (seven combinations). No attempt was made to analyze these data by discipline since the resulting sample sizes would be too limited to draw any reasonable conclusions.

Insert Table 8 about here

Overall, lecture was the predominant mode of instruction if the topics were taught at all. The mean percentage was 50.85 for the lecture only strategy across the 48 content areas. The mean percentage was 15.73 for the lecture/laboratory/clinical experience strategy, which was the second ranking strategy. Interestingly, about 17% of the educators indicated that experiental strategies (clinical, laboratory, or combination of both) was the predominate mode of instruction. This was similar to the 17% or so who indicated that a combination of lecture/laboratory of lecture/clinical experience was the teaching strategy in current use.

The dominance of the lecture approach does change somewhat if one examines the skill areas as opposed to the content areas. For example, data for six

skills are presented in the following summary:

Skill Area	Lecture Only	Lecture + Clinical	Lecture + Laboratory	Lecture + Laboratory + Clinical
Communicating with elderly	25.9	12.3	8.2	28.8
Skills pertinent to specific setting	26.2	13.1	10.7	27.4
Referral to services	34.4	9.8	0.0	13.1
Allied health methods	35.6	9.6	12.2	28.8
Interviewing	19.7	18.4	10.5	31.6
Assessment and diagnosis, psychological and social	24.1	6.9	13.9	39.6
Mean	27.6	11.7	9.2	28.2
SD	6.2	4.0	4.9	8.6

Twenty-five percent reported the lecture only strategy. And about 50 percent reported some combination of lecture/laboratory/clinical experience. Thus, in the skill areas a larger number of educators reported the use of some practice (either laboratory or clinical) in these skill areas and a reduction of lecture only use.

As can also be noted, about 25% of the educators indicated that some form of experiental strategies only were used in these skill areas. And, a substantial number of educators (10-15 percent or more) indicated that certain skill areas were gained through clinical experience only.

If one examines the number of topics taught by more than 50 percent of the programs, only three topics are noted: psychology of aging, physiology of aging, and pathology. These three are also included in the core curriculum. In contrast, over 90 percent of all educators and practitioners returning the survey rated these content areas as important. This is a large discrepancy

between perceived need for content and actual teaching practice. Also, it is interesting to note that a large number of the component topics that would be included in a psychology of aging course (e.g., affective needs and responses, behavioral responses, cognition, motivation, etc.) were not rated very highly important overall. Thus, what the educators and practitioners mean by the term psychology of aging merits further investigation.

Lastly, it is instructive to note those content areas that are taught through clinical experience only. These include:

Community resources
Fiscal programs and services
Referral to services
Psychopathology
Long-term care
Communicating, working with the elderly
Recognizing positive aspects of aging

Average Length of Instruction for Topics Currently Taught

Table 9 presents the average length of time spent on the 48 content areas by discipline and overall mean lengths by content area (row means) and discipline (column means). Project staff could not discern any pattern to these data by inspection. Analyses by discipline were precluded since the sample sizes were generally too small. By grouping the means of the 48 content areas, the modal range of length was 2.1-4 hours (about a week of a normal three semester hour college course. By lengths the distribution was as follows:

0 - 12 hours	4
2.1 - 4 hours	21
4.1 - 6 hours	8
6.1 - 8 hours	7
8.1 - 10 hours	5
10 or more hours	3

No attempt was made to analyze the amount of instruction by type of instruction (lecture, laboratory, clinical) for similar reasons.

Inspection of the means by discipline suggests that respiratory therapy educators spend the most time per topic (8.53 hours) if that topic is taught at all. Radiation therapy educators also spend longer time on topics included (6.18 hours). The two middle disciplines were OTA and PTA with means in the high 4's. The two dental-related professions spent the least amount of time per topic.

Frequency of Topics Included in the Seven Curriculums

Table 9 also presents information related to the number of educational programs by discipline that include the various 48 content areas. The amount of variation by discipline was substantial. On overall perspective can be

Insert Table 9 about here

gained, however, if one considers these data in a more aggregate fashion. The following breaks down the information by discipline according to the number of topics that are included by at least 25% of the programs, by at least 50% of the programs, and by 75% of the programs.

	25%	50%	75%	Range of Topics
Dental Assistant	12 *	1	0	1-24
Dental Hygienist	15	0	0	2-38
OT Assistant	21	22	1	1-15
PT Assistant	29	5	0	1-13
Radiologic Technologist	6	1	0	0-33
Radiation Therapist	7	2	0	1-12
Respiratory Therapist	12	1	0	6-58

*Means that 12 topics were included by at least 25 percent of the DA educational programs. Only one topic was taught by as many as 50% of the programs and no topics were taught by 75% of the programs.

By viewing the data in this way we can see that, by far, OTA educators include considerably more geriatric content than the other disciplines. PTA educators tend to include the next most number of topics. Dental assisting, dental hygiene, and respiratory therapy offer a similar number of topics. The fewest number of topics offered appear to be offered by the radiation science disciplines. Considering that the disciplines of radiologic technology, radiation therapy, and respiratory therapy tend to see at least 50% of their patients in the over 51 years of age range, it is interesting to note that these disciplines offer the least amount of instruction to their students in geriatric areas.

Overall, these data suggest that some gerontology topics are included in allied health programs, but variation in offerings is quite dramatic (by discipline and within a discipline). Their inclusion is not that prevalent, however.

Objective 3: To conduct a discrepancy analysis of educators and practitioners based on identified content areas and current practices.

The data obtained from the survey discussed in Objective 2 was further analyzed to identify possible areas of disagreement between educators and practitioners. The content importance ratings for the 48 topics were used in these analyses. In the first series of analyses, the ratings of importance for the 48 areas for educators and practitioners, independent of allied health discipline, were compared via *t* tests.* (*t* tests for unequal variances were computed where appropriate.) The results of these analyses are presented in Table 10.

*Nonparameteric analyses yielded equivalent findings. Therefore, *t* test results are presented for sake of simplicity throughout this section of the technical report.

In reviewing the means, the reader is reminded that the scoring was 1 = very important to 5 = not important. Thus, a lower mean is indicative of a higher importance rating. Overall, there were 25 comparisons significant at or beyond the .05 level (two-tailed). Only 2.4 comparisons would be expected to be significant (.05 x 48 = 2.4) by chance alone. The number of significant differences suggests that educators and practitioners differ in their opinions for approximately one-half of the content areas included in the survey.

Insert Table 10 about here

Of the 25 significant comparisons (indicated in Table 10 by an asterisk), the practitioners showed significantly higher ratings in 22 of the content areas. In only three instances did the educators report significantly higher ratings: death and dying, ethical issues in health care of aged, and pathology. It seems reasonable to conclude that overall, the practitioners attached more importance to aging topics than the educators.

To examine rating differences by discipline, a second series of analyses were conducted separately for the seven allied health disciplines. In each set of analyses, a series of *t* tests were conducted comparing the educators with the practitioners. Table 11 presents the results of these analyses. To simplify the presentation of results, only the significant differences have been included in Table 11 and the direction of the difference (educator +, e+, or practitioner +, p+) indicated.

Insert Table 11 about here

Overall, there were 91 significant comparisons (out of 336); 16.8 would be expected by chance alone. Of the 91, 64 of the differences were in the direction of the practitioners and 27 in the direction of educators. It may be noted that the pattern of the differences was related to discipline. Four disciplines showed general agreement between the educators and practitioners; however, three disciplines showed considerable disagreement.

In dental assisting, general agreement between the educators and practitioners was observed. Only five topic areas revealed significant differences all of which favored the practitioners. Inspection of the topic areas suggested that dental assistant practitioners felt that long-term care, evaluation of care, referral to services, allied health methods, and psychological/social assessment and diagnosis for the elderly were more important than the educators felt they were.

In contrast, less agreement was noted in the dental hygiene area. Eighteen comparisons, 16 of which favored the educators, were significant. Practitioners felt that only the biology of aging and the nutritional impact of drugs were more important than did educators. Inspection of the 16 areas rated higher by the educators suggests an applied psychology/sociology of aging factor.

Educators in occupational therapy assisting showed 12 areas in which their ratings were significantly higher than their corresponding practitioners. Similar to the dental hygienists, inspection of these topic areas suggests an applied psychology/sociology factor.

The area of physical therapy assisting showed the fewest number of significant comparisons (three) of all seven disciplines. Educators felt ethical issues and death and dying were more important while practitioners felt that motivation was more important than the educators.

The area of radiologic technology yielded, by far, the largest number of discrepancy areas between educators and practitioners. Thirty topic areas, all of which favored the practitioners, showed significant differences. Interpretation of these data is difficult, but the large number of differences suggests a strong difference in opinion between educators and practitioners over non-technological issues. It is suspected that education in radiologic technology primarily focuses on positioning and techniques and does not deal with patient management and related health issues to the extent of the other disciplines.

The areas of radiation therapy and respiratory therapy indicated close agreement between the educators and practitioners. Only four areas showed significant differences. For radiation therapy, practitioners felt behavioral changes, physical functioning, pathophysiology, and positive aspects of aging were more important than did educators. In respiratory therapy, the practitioners felt physical functioning, death and dying, health status, and preventive approach were more important.

A third series of discrepancy analyses focused on evaluating the factor structure of the 48 content area ratings as a function of role-educator or practitioner. For these analyses, the statistical treatment used was factor analysis. Factor analysis is a method for determining the number and nature of the underlying variables. It reduces the multiplicity of variables by showing which variables belong together. Basically it describes the

relationship among a large number of variables in a correlation matrix by reducing them to a few composite variables called factors. The steps involved include (1) a correlation matrix (2) extraction of initial factors, and (3) rotation procedures aimed at obtaining the simplest and interpretable factors (Kerlinger, 1973).

Sample sizes were generally too limited to warrant analyzing the ratings separately by discipline. One conservatively needs to have 2 1/2 times the number of subjects to variables in a factor analysis. Therefore, correlations were computed among the 48 content area ratings for all educators and practitioners and these data were factor analyzed, using a principal axis solution with squared multiple correlations as estimates of the communalities. Separate analyses were computed for the educators and practitioners. For each group, a scree plot (Cattell, 1966) of the eigenvalues suggested a range of 2-5 factors. Five eigenvalues were greater than one for the educators, six for the practitioners. It was thought desirable to review a range of solutions to ensure that no meaningful solution was overlooked. Accordingly, two-, three-, four-, five-, and six-factor solutions were rotated by Kaiser's (1958) varimax and then evaluated in terms of simple structure, parsimony, and curricular meaningfulness. The three-factor solution had good simple structure and could be meaningfully interpreted. The five-factor solution was also interpreted.

Table 12 presents the varimax three-factor solution for the educators. Only the salient items with an absolute value of .40 or greater are reported in the tables. Items that had salient loadings on more than one factor have also been listed. For the educators, Factor I, which accounted for 61.7 percent of the variance, was interpreted to be a broad-based treatment factor

that included care and treatment, knowledge and skills. However, there was a definite tendency for this factor to have a preventive approach with a community orientation. Acknowledgement of the importance of psychosocial factors (diagnosis, motivation, psychopathology) in the treatment, and the use of community resources and social programs was definitely made.

Insert Table 12 about here

Factor II (8 percent of the variance) was clearly a psychosocial factor. The majority of broad-based knowledge theoretical items (e.g., psychology and sociology of aging) had salient loadings on this factor as well as applied items (affective needs of patients, behavioral changes, communication skills, understanding one's own attitudes). Again, a health prevention focus was apparent, and one that included family and societal aspects.

Factor III (6.8 percent of the variance) was clearly a medical illness factor. Biology of aging, pathology, and pathophysiology had salient loadings on this factor as did the concept of disease chronicity. Attention by the educators to psychosocial factors is also evident on this factor as cultural differences in illness, coping, psychosocial assessment and diagnosis, and death and dying showed salient loadings on Factor III. The importance of support systems is indicated on this factor as before.

The two-, four-, and six-factor solutions were reviewed for simple structure, parsimony, and curricular meaningfulness and rejected. The two-factor solution for educators showed a care and treatment/illness factor with thirteen overlapping psychosocial items (lack of simple structure). The second factor was a clear psychosocial factor. The first three factors of the

four-factor solution were similar to the three-factor one. The fourth factor was poorly defined with only three unique salient items. The six-factor solution was rejected because the sixth factor only had one unique salient item.

The five-factor solution deserves some attention, although its simple structure was somewhat lacking. The results are presented in Table 13. The first three factors were similar to the three-factor solution. The fourth factor was a family-community factor, items which also showed salient loadings on the first two factors. The fifth factor was an aging attitude factor (recognizing the positive aspects of aging, understanding aging as a normal experience, awareness of one's own attitudes toward aging).

Insert Table 13 about here

Table 14 presents the three-factor solution for all practitioners. Factor I (47.8 percent of the variance) was clearly a broad-based psychosocial factor with 18 unique salient item loadings. Family, community services, and attitude toward aging items all loaded on this factor. This factor was similar to Factor II for the educators, but accounted for considerably more variance in the solution for practitioners. The second factor for the practitioners was an illness factor. This was the third factor for the educators, however, the practitioners did not include the psychosocial items and included other health-related topics (e.g., physiology and pharmacology of aging, health status, sensory function and change). The illness factor was broader for the practitioners than for the educators. The third factor for the practitioners was a treatment factor.

Insert Table 14 about here

The two-, four-, and six-factor solutions for the practitioners were rejected for similar reasons as those for the educators. The five-factor solution (Table 15) yielded the following five factors:

Psychosocial aspects
Health status
Treatment
Family-community resources
Health promotion/policy/prevention

The first four factors are essentially the same as those found for the educators although several item differences were noted. The fifth factor was, for the practitioners, a health promotion one whereas it was an attitude one for the educators.

Insert Table 15 about here

In summary it can be concluded that there are a number of discrepancies between educators and practitioners concerning the degree of importance of topics.

Objective 4: To design curriculum guidelines to meet the needs identified.

Based on the survey results presented in Section II, curriculum guidelines for three major areas are presented below. Specific performance objectives with suggested readings and activities are presented for Psychology of Aging, Health and Aging, and Communication Skills. The two content areas of physiology of aging and pathology are subsumed under the more generic area of Health and Aging.

Psychology of Aging

The following presents suggested content for study of the Psychology of Aging. Performance objectives are presented followed by suggested learning experiences and suggested readings. Media resources are listed at the end of this section.

PERFORMANCE OBJECTIVES AND SUBOBJECTIVES

OBJECTIVE 1.0: The student will be able to describe some of the age related changes in sensory processes.

1.1 The student will be able to describe age related changes in vision.

1.2 The student will be able to describe hearing loss with age and will be able to discuss some of the effects.

1.3 The student will be able to describe other age related changes in the senses.

Learning Experiences

1. Use activities in a sensory deprivation kit which sensitizes individuals to the sensory problems encountered by the elderly.

2. What impact do sensory problems have on the quality of life of the elderly?

Suggested Reading

Ernst, M. and Shore, H. Sensitizing people to the process of aging: The inservice educator's guide. Denton, TX: Center for Studies in Aging, North Texas State University, 1975.

OBJECTIVE 2.0 The student will be able to describe age related changes in perception and psychomotor skills.

Learning Experiences

1. Interview a physical therapist as to the types of rehabilitation training that can be used with the elderly.

2. What impact do the age related changes in perception and psychomotor skills have on the quality of life of the elderly?

Suggested Reading

Bromley, D.B. The psychology of human aging. Baltimore: Penguin Books, 1974.

OBJECTIVE 3.0 The student will be able to describe the age related changes in cognitive ability.

Learning Experiences

1. Interview a clinical psychologist as to the identification, diagnosis and rehabilitation of decreased cognitive ability.

2. Suggest teaching methods that might be more effective for working with elderly patients.

Suggested Readings

Hultsch, D.F. Learning to learn in adulthood. Journal of Gerontology, 1974, 29(3), 302-308.

Shaie, K.W. Age changes in adult intelligence. In D.S. Woodruff and J.E. Birren (Eds.) Aging: Scientific perspectives and social issues. New York: Van Nostrand, 1975, 111-124.

OBJECTIVE 4.0: The student will be able to describe the types of psychological disorders found to increase with increasing age.

4.1 The student will be able to discuss the reasons for functional psychological disorders in the elderly.

4.2 The student will be able to describe organic disorders prevalent in the elderly.

Learning Experiences

1. Invite a clinical psychologist to class to discuss the prevalence, diagnosis, and treatment of some of the common psychological disorders of the elderly.

2. Discuss with a counselor methods for working with elderly patients with emotional disorders.

3. Discuss ways to reduce stress for your elderly patients as they receive health care.

Suggested Reading

Whitehead, J.A. Psychiatric disorders in old age: A handbook for the clinical team. New York: Springer, 1974.

OBJECTIVE 5.0 The student will be able to describe aged related changes in personality.

Learning Experiences

1. Invite a member of the nursing care staff of a nursing home to class and discuss patient management problems related to changes in personality.

2. Discuss with a clinical psychologist or counselor effective methods for working with the elderly who are experiencing or have experienced personality changes.

Suggested Readings

Neugarten, B. Personality changes in late life: A developmental perspective. In C. Eisdorfer and M.P. Lawton (Eds.), The psychology of adult development and aging. Washington, D.C.: American Psychological Association, 1973.

Woodruff, D. and Birren, J. Age changes and cohort differences in personality. Developmental Psychology, 1972, 6(2), 252-259.

OBJECTIVE 6.0 The student will be able to discuss reasons for changes in self-concept and self-esteem.

Learning Experiences

1. Discuss ways in which a negative self-concept and lowered self-esteem can affect patient management.

2. Discuss with a counselor or clinical psychologist effective methods for working with patients with negative self-concept and lowered self-esteem.

Suggested Readings

Butler, R. and Lewis, M. Aging and mental health (2nd Ed.). St. Louis: C.V. Mosby Co., 1977.

Poon, L.W. Aging in the 1980's: Psychological issues. Washington, D.C.: American Psychological Association, 1980.

Psychology of Aging Media

FILMS

Don't Stop the Music	18 min., color, 1973.	Available from NTSU.*
Step Aside, Step Down	20 min., color, 1971.	Available from NTSU.
Successful Aging	8 parts, 30 min. each.	Available from CM.
Portrait of Grandpa Doc	30 min., color, 1978.	Available from NTSU.
The Mailbox	24 min., 1976.	Available from NTSU.
When Parents Grow Old	14 min., color, 1970.	Available from NTSU.
Imogen Cunningham at 93	13 min., color, 1977.	Available from NTSU.
Maggie Kuhn: Wrinkled Radical	17 min., color, 1977.	Available from NTSU.

Retirement	50 min., color, 1978. Available from C5.
The Art of Age	27 min., color, 1972. Available from NTSU.
Perspectives on Dying	6 parts, 30 min., each. Available from CM.

Aging. 22 minutes, color, 1973. Series of interviews demonstrating approaches to aging. Rentals available from IU, UCEMC; Purchase from CRM.

And When You Grow Old. 26 minutes, color, 1975. Five people share their feelings about growing old and their philosophies of living. Available for rental, purchase from AOTA.

See No Evil. 15 minutes, b/w. A documentary underscoring some of the problems faced by the elderly including failing health, loneliness, and a different life style. Shows the problems of a late-life relationship. Available for rental/purchase, Filmakers.

The Maturing Women. 30 minutes, color, 1977. A stimulus film designed to help the viewer identify her/his own beliefs about getting older. Available for rental/purchase, APGA.

The Psychology of Aging. 30 minutes, b/w, 1970. Discusses psychological changes associated with old age. Available for rental/purchase, AJN.

SLIDE TAPES

Slide tape program on the aging network. Available from Miami University, Scripps Foundation Gerontology Center, Oxford, Ohio.

Sensory simulation slide tape programs. Available from UM/IOG.

GAMES

End of the Line. This is a game which simulates bureaucratic mazes through which the elderly must find their way. Available from UM/IOG.

Center Stage Skits. Cutter, M.B. Texas Center on Aging, Inc., Dallas, Texas, 1981.

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*A glossary of abbreviations is presented at the end of the curriculum guidelines.

Health and Aging

Pathology and Physiology of Aging are under the more general topic of Health and Aging. For each discipline specific aspects of pathology will be viewed as important and should be stressed. A systems approach appears to be most appropriate. Specific performance objectives are presented below with suggested readings and activities following each section. Suggested media will follow at the end of the entire listing of objectives.

PERFORMANCE OBJECTIVES AND SUBOBJECTIVES

OBJECTIVE 1.0 The student will be able to identify changes associated with the aging neurosensory system.

1.1 The student will be able to describe the two major types of strokes and their effects.

1.2 The student will be able to identify the causes and symptoms of Parkinson's disease.

1.3 The student will be able to describe the general progression of hearing loss and the resulting changes in perceiving sound.

1.4 The student will be able to list factors contributing to hearing loss.

1.5 The student will be able to discuss the impact of decreased vision on the life of the elderly.

1.6 The student will be able to list and describe vision problems of the aging eye.

Learning Experiences

1. What restorative/rehabilitative services are needed by the stoke victim? How many of these are available to the elderly stroke victim?

2. Interview a member of a health care team who works with patients diagnosed with Parkinson's disease. Your questions should center on medical care and psychological impact on the patient and family.

3. Invite a gerontological clinical nurse specialist to class to discuss assessment of hearing loss.

4. Invite a hearing aid specialist to class to discuss his or her role in helping the older person to hear and to demonstrate various types of hearing aids.

5. Interview an elderly person with altered vision. Find out what he or she understands about his or her condition and the problems encountered because of altered vision.

6. Wear a set of swimmers goggles modified by (a) pasting black paper in a circle around each eye to depict tunnel vision; and (b) taping yellow transparent plastic paper over the lenses to represent yellowing of the lenses of the eyes.

Suggested Readings

Gresh, C. Helpful tips you can give your patients with Parkinson's disease. Nursing '80, 1980, 10, 26-33.

Meyerhof, W. and Paperella, M. Diagnosing the cause of hearing loss. Geriatrics, 1979, 32(3), 95-99.

Marmor, M.F. The eye and vision in the elderly. Geriatrics, 1977, 32(8), 63-67.

OBJECTIVE 2.0 The student will be able to describe some of the age-related changes in the skin.

Learning Experiences

1. Interview men and women of different ages. Your questions should center on their perception of the impact of changes in the skin on their self-image.

Suggested Readings

Carlson, R.A. Aging skin: Understanding the inevitable. Geriatrics, 1975, 30(2), 59-60.

OBJECTIVE 3.0 The student will be able to describe some of the normal and disease related changes in the aging cardiovascular system.

3.1 The student will be able to describe some of the normal changes in the aging cardiovascular system.

3.2 The student will be able to identify contributing factors associated with myocardial infarction (heart attack).

3.3 The student will be able to compare normal blood pressure and hypertension.

3.4 The student will be able to discuss the reasons for which a pacemaker might by inserted.

Learning Experiences

1. Visit the American Heart Association and obtain information on their philosophy, objectives, and services they provide.

2. Invite a health provider to class to discuss the treatment of myocardial infarction.

Suggested Readings

Adelman, E. When the patient's blood pressure falls. Nursing '80, 1980, 10(2), 26-33.

Baile, W. and Gross, R. Hypertension: Psychosomatic and behavioral aspects. Primary Care, 1977, 6, 267-282.

Manwaring, M. What patients need to know about pacemakers. American Journal of Nursing, 1977, 77, 825-830.

Neurath, O. Cardiovascular changes in old age. Journal of the American Geriatrics Society, 1978, 26, 286-288.

OBJECTIVE 4.0 The student will be able to describe some of the normal and disease related changes in the aging respiratory system.

4.1 The student will be able to describe the normal functioning of the lungs.

4.2 The student will be able to describe age-related changes in the respiratory system.

Learning Experiences

1. What would you include in the health maintenance plan for an older person to prevent respiratory problems?

2. Interview an elderly person with a respiratory condition. Discuss the problems he or she faces in managing activities of daily living and how he or she copes with these problems.

Suggested Readings

Campbell, E. and LeFrak, E. How aging affects the structure and function of the respiratory system. Geriatrics, 1970, 33(6), 68-74.

Kaufman, J. and Woody, J. For patients with COPD: Better living through teaching. Nursing '80, 1980, 10(3), 57-61.

OBJECTIVE 5.0: The student will be able to describe the aging gastrointestinal system.

5.1 The student will be able to describe normal functioning of the gastrointestinal system.

5.2 The student will be able to describe some of the changes that occur in the aging gastrointestinal system.

Learning Experiences

1. Design a health maintenance plan to promote optimal functioning of the gastrointestinal system.

2. Interview a dietitian at a local nursing home. Your interview should center on diet modifications that are necessary due to changes that occur in the aging gastrointestinal system.

Suggested Readings

Erle, H. Constipation. Primary Care, 1976, 3, 301-310.

Langer, A. Oral signs of aging and their clinical significance. Geriatrics, 1976, 31(12), 63-69.

OBJECTIVE 6.0 The student will be able to describe some of the age-related changes in the genitourinary system.

6.1 The student will be able to describe normal functioning of the urinary tract.

6.2 The student will be able to discuss the reasons the elderly are at high risk for urinary tract infection.

6.3 The student will be able to discuss the reasons that elderly men are concerned about prostate problems.

6.4 The student will be able to describe some of the changes associated with menopause.

6.5 The student will be able to discuss the impact of aging on sexual activity.

Learning Experiences

1. Interview a member of the nursing care team in a nursing home as to the number of patients having catheters and why, the incidence of urinary tract infection, and the availability and use of a bladder training program.

2. What is your impression of the postmenopausal woman? Draw a word picture.

3. Identify some factors you would discuss with older adults to promote and maintain the sexuality of older men and women.

Suggested Readings

Lye, M. Defining and treating urinary infections. Geriatrics, 1978, 33(3), 71-79.

McCarthy, P. Geriatric sexuality: Capacity, interest and opportunity. Journal of Gerontological Nursing, 1975, 1, 20-24.

Notelovitz, M. Gynecological problems of menopausal women. Part I Changes in genital tissue. Geriatrics, 1978, 32(8), 24-30. Part II Treating estrogen deficiency. Geriatrics, 1978, 32(9), 35-37, 41-42. Part III Changes in estragenital tissues and sexuality. Geriatrics, 1978, 32(10), 51-57, 57-58.

OBJECTIVE 7.0 The student will be able to describe some of the age-related changes in the endocrine system.

7.1 The student will be able to discuss why hypothyroidism is often missed or misdiagnosed.

7.2 The student will be able to state and describe the two kinds of diabetes.

7.3 The student will be able to discuss the need for patient education as part of the treatment of diabetes.

Learning Experiences

1. As a health care provider what is your role in assisting the older hypothroid adult?

2. Interview an endocrinologist regarding treatment of and management of the two kinds of diabetes.

3. Interview an older diabetic regarding his or her health maintenance plan. Compare the plan with that recommended by the American Diabetes Association.

Suggested Readings

Goldman, R. Decline in organ function with aging. In Rossman, Clinical Geriatrics (2nd Ed.). Philadelphia: Lippincott, 1979.

Schoenbaum, S. How to minimize the infectious complications of diabetes. Geriatrics, 1979, 34(8), 51-61.

OBJECTIVE 8.0 The student will be able to describe major age-related changes in the musculoskeletal system.

8.1 The student will be able to discuss the implications of musculoskeletal changes for quality for life.

8.2 The student will be able to describe the effects of arthritis and the response of the elderly.

8.3 The student will be able to describe osteoporosis.

8.4 The student will be able to discuss the usual fractures and prognosis for fractures of the elderly.

8.5 The student will be able to describe the causes of low back pain.

8.6 The student will be able to discuss factors that inhibit proper foot care and health habits necessary to maintain the condition of the feet.

Learning Experiences

1. Interview residents of a nursing home about the effects of musculoskeletal changes on their lives, and their health beliefs concerning arthritis.

2. Interview an internist as to his or her recommended treatment for arthritis.

3. What is the role of your health specialty with the older person with osteoporosis?

4. Develop an environmental safety program for the older population.

5. How would you encourage older persons to maintain the health of their backs?

6. What are the health habits that older persons should practice to maintain the health of their feet?

Suggested Readings

Gilchrist, A.K. Common foot problems of the elderly. Geriatrics, 1979, 34(11), 67-70.

Liss, S. and Wylie, W. Practical aspects of mobilizing the elderly patient following hip fracture. Texas Medicine, 1978, 74, 69-73.

Murton, C. et al. Treating low back pain in the elderly. Geriatrics, 1978, 33(10), 61-65.

Wolff, H. Musculoskeletal problems. In Carnevali, D. and Patrick, M. (Eds.), Nursing management for the elderly. Philadelphia: Lippincott, 1979.

OBJECTIVE 9.0: The student will be able to describe important aspects of cancer in the elderly.

9.1 The student will be able to identify three reasons for a higher frequency of cancer in the elderly.

9.2 The student will be able to list four organs most often affected by cancer in the elderly.

9.3 The student will be able to describe several routine diagnostic examinations which should be done in the annual physical exam.

Learning Objectives

1. Interview a member of an oncology team regarding the incidence, affected organs, diagnosis and treatment of cancer in the elderly.

2. What services are available through the American Cancer Society?

Suggested Reading

Asbury, R.F. et al. Treatment of metastatic breast cancer with aminoglu-
thimide. Cancer: A Journal of the American Cancer Society, 1981, 47,
1954.

Health and Aging Media

FILMS

Diabetics Unknown. 30 minutes, b/w, 1962. The symptoms, pathologic physiology and outlook are explained by typical patients and a physician. Available free from Upjohn.

Diabetes: Special Problems in the Older Patient. 22 min., color, 1973. Discusses diagnosis and management of diabetes in older patients. Available free from Upjohn.

Health of the Aged. 30 minutes, b/w, 1970. Presents a view of normal aging and common health impairments. Available for rental, NTSU, and rental/purchase, AJN.

Light of Your Life. 15 minutes, b/w, 1967. Presents information on glaucoma: the disease, testing, and treatment. Available for rental, IFB.

Why Risk a Heart Attack? 14 minutes, color, 1975. Presents information on cardiac risk factors. Available for rental/purchase, TLF.

VIDEOTAPES

Age Related Sensory Losses, An Emphathic Approach. 15 min., color. An overview of sensory loss which occurs with age and a simulation of vision and hearing problems. Available for rental/purchase, UM-TV.

SLIDE TAPES

Examining the Elderly. 1968. Details of the medical examination of the elderly by a physician. Refutes the usual concepts of senility. Available from NMAC.

Geriatrics and Degenerative Diseases. An examination of the metabolic changes associated with aging. Available for purchase from MFG.

FILMSTRIPS

Biologic Changes of Aging: Function and Capacity. 20 min., color, 1976. Presents the changes which occur in normal aging of the major body systems. Part of the Gerontological Care Series. Available for purchase, TRAINEX.

Biological Changes of Aging: Physical Appearance and the Special Senses. 15 min., color, 1976. Presents the biological changes in stature and appearance that occur with normal aging. From the Gerontological Care Series. Available for purchase, TRAINEX.

Communication Skills define a wide area of topics that impact the patient provider-relationship. The following set of objectives, learning experiences and media should provide the basis around which the health educator can develop coursework for allied health students.

OBJECTIVE 1.0 The student will be able to define communication.

OBJECTIVE 2.0 The student will be able to discuss patient variables which affect communication and patient management.

2.1 The student will be able to discuss the impact of psychosocial and educational variables on communication.

2.2 The student will be able to discuss the impact of health/wellness factors on communication.

2.3 The student will be able to discuss the role of the health belief model.

OBJECTIVE 3.0 The student will be able to discuss practitioner variables which affect communication.

3.1 The student will be able to discuss the impact of the staff's attitude toward aging and the aged on communication.

OBJECTIVE 4.0 The student will be able to describe barriers to effective communication with the elderly.

4.1 The student will be able to discuss the effect of emotional and health related problems on effective communication.

4.2 The student will be able to identify response patterns of either the patient or provider that serve as barriers to effective communication.

OBJECTIVE 5.0 The student will be able to discuss the impact of communication on compliance.

OBJECTIVE 6.0 The student will be able to exhibit skills which improve communication.

6.1 The student will be able to communicate warmth and personal regard.

6.2 The student will be able to communicate genuineness.

6.3 The student will be able to communicate emphathic understanding.

Learning Experiences

The following are a series of exercises that might be used for training communication skills.

EXERCISE 1

Sit down with a friend. One of you call yourself "A" and the other "B".

a. A should talk about a topic that seems interesting--school, politics, family, hobbies, sports, clothes, etc. A talks, B should ignore A. Pay no attention to A at all. Read a magazine, doodle, look around the room, count the wrinkles in hands, but do not look at A at all. A should talk for about two minutes.

b. A should continue talking about some topic. As A talks, B should be highly attentive, looking at A and being as interested as possible. However, A is not to look at B at all while talking. Again A should talk for about two minutes.

c. Now discuss the experiences. Let A discuss how it feels to talk to someone who does not look at the speaker. What kinds of behavior did A exhibit--talking faster, louder, slower, softer, frequent changes of subjects, etc.? Let B discuss how it feels to have the speaker refuse to look at the listener. Was it difficult to remain interested?

d. This time B should talk about a topic in which B has some interest. As B is talking, A is to (1) determine the feeling that B is expressing about the subject, e.g., happiness, anger, sadness, etc. and (2) express via A's facial expression this feeling. For instance, if B is expressing sadness, A should show sadness by a down-turned mouth; if happiness, a smile; if anger, squinting eyes and clenched teeth.

e. Now discuss this experience. Was A accurate in identifying the feelings B was expressing? Could B identify the feeling expressed by A's facial expression? Did B feel more understood? Did B feel that A was really interested in what B was saying?

EXERCISE 2

1. Be alert the next time you receive a warm greeting from someone. Think about what the person did that helped you to feel good about the greeting.

2. Greet the next person warmly who talks to you.

   A. Stop what you're doing and direct your attention to the speaker. Try looking at their eyes, nodding, and smiling.

B. Consider the reaction of the speaker. They'll like it. Roommates have been known to say, "Hey, what's got into you anyway?

3. Today or tomorrow show enthusiasm for a topic during a conversation.

Remember to use gestures, use an animated voice.

Example:

"Speaking of movies, I hear the new Robert Redford movies is going to be <u>super</u>. I really enjoyed him in 'Brubaker,' etc."

Evaluation:

How do you like yourself as a warm, caring listener? How difficult was the role?

EXERCISE 3

Behavior	Never	Sometimes	Often
Faces the person			
Maintains eye contact			
Leans toward person			
Uses hand or arm movements			
Gives undivided attention			
Asks leading questions			
Uses "interested" sounds, e.g., Yeah, Wow, All right			

Form a triad with two other persons.

Using the above chart, take turns doing the following roleplay situations with the third person serving as an observer to tally the helper's behaviors.

1. One of you be an older adult who is crying softly. The other responds (make up your own reasons for crying).

2. One of you be an older adult who is angry because he/she is missing a favorite television program because the others won't change channels. The other responds.

3. One of you be an older adult who is complaining again about the food, a complaint the individual makes after almost every meal. The other responds.

Wrap-up discussion

Discuss in the triad your reactions to the exercises.

1. How comfortable were you as the observer? Did you feel like a "tattle tale?"

2. How did you like trying a few, specific "warmth" behaviors? Unnatural? On the spot? Like you were getting anywhere?

EXERCISE 4

In the examples that follow, read the statement and formulate your own response. At this point, it might be useful to begin by using the phrase, "You feel..."

1. Older Adult: "I don't know what I'm going to do. The only grocery store within walking distance is closing."

   Response:

2. Older Adult: "My grandson was supposed to come by to visit me yesterday, but his work schedule changed and he couldn't make it."

   Response:

3. Older Adult: "They are raising the rent in the apartment complex where I live. I don't know how I'll make ends meet."

   Response:

4. Older Adult: "I just never dreamed life could be such fun! We bought a condominium in Florida and we are having the time of our lives."

   Response:

EXERCISE 5

Write responses to the following statements which basically paraphrase the content of the statement. Begin your response with a phrase such as, "I hear you saying..." or "It sounds to me..."

1. Older Adult: "The doctor says I have to come back in for further x-rays. I really dont't want to, especially because the transportation problem is so difficult."

   Response:

2. Older Adult: "I just don't have the same amount of energy I used to have. Sometimes I worry that something's wrong with me."

   Response:

3. Older Adult: "My children just don't have time for me anymore. They used to come visit so often, but now the kids are growing up and are so involved in their activities. I feel really left out of their lives."

   Response:

Share your responses with other students. How do yours compare with others? Discuss any differences.

EXERCISE 6

Pick a partner. One of you is to be the talker and the other is to be the listener. The talker is to make a brief statement about a concern she/he has. The listener is to respond to both the content and feelings expressed using the formula, "You feel _____ because of _____."

After the listener has made about 5 responses, stop the interaction. At this point, the listener should ask for feedback regarding the accuracy of the empathic responses.

Switch roles and repeat the exercise.

Suggested Readings

Combs, A.W., Avila, D.L., & Purkey, W.W. Helping relationships. Boston: Allyn & Bacon, 1971.

Gazda, G.M., Walters, R.P., & Childers, W.C. Human relations development: A manual for health science. Boston: Allyn & Bacon, 1975.

Johnson, D.W. Reaching out: Interpersonal effectiveness and self-actualization. Englewood Cliffs, N.J.: Prentice-Hall, 1972.

Peitchinis, J.A. Staff-patient communication in the health services. New York: Springer Publishing Co., 1976.

Purtilo, R. Health professional/patient interaction (2nd Ed.) Philadelphia: W.B. Saunders Co., 1978.

Communication Skills Media

FILMS

Interacting with Older People. 56 minutes, b/w, 1974. A training film primarily for nurses on the psychosocial needs of the elderly and techniques to promote interaction. Available for rental/purchase, DENT, WSU.

Aides in Daily Living. 27 minutes, b/w, 1966. Shows how nurses aides can encourage geriatric patients' self-help efforts. Available for rental UM/TV.

Interacting with Older People. 56 minutes, b/w, 1974. Parts I and II. Films discuss psychosocial needs of older persons and identify techniques to promote interaction with these persons. Attitudes of hospital staff dealing with these patients are examined. Available for rental/purchase WSU, DENT.

Peege. 28 minutes, color, 1974. Deals with the breaking of communication barriers to reach those isolated by age and failing mental capacities. Story of a young man and his grandmother. Rental UM/TV.

SLIDE TAPE

Telephone Reassurance. 90 slides, 1976. Describes the work of telephone reassurance programs which help older people remain independent and in their own home by contacting them on a regular schedule.

FILMSTRIPS

Nonverbal Communication in Nursing (a series). Presents concepts of nonverbal communication between people of all ages. Available for purchase CM.

The Interaction. 108 Frs, color, 1970. Part of Nurse-Patient Interaction (A Series). This filmstrip teaches the attitudes and skills necessary for a therapeutic interaction. Available for Rental UM/TV.

MEDIA RESOURCES

The following lists are sources of additional materials in gerontology and geriatrics. The media sources refer to the abbreviations at the end of the suggested media. The media bibliographies are excellent sources of additional materials.

ACC Audiovisual Department
Ambulatory Care Center
1977 Miamisburg - Centerville Road
Dayton, OH 45459

AJN — American Journal of Nursing Company
C/O Association Films
600 Grand Avenue
Ridgefield, NJ 07657

AOTA — American Occupational Therapy Assn., Inc.
600 Executive Blvd., Suite 200
Rockville, MD 20852

ANHA — American Nursing Home Assn.
Film Service
Box 7816
Alexandria, VA 22307

APGA — APGA Film Sales
1607 New Hampshire Ave., NW
Washington, D.C. 20009

AF — Association Films, Inc.
8615 Director Row
Dallas, TX 75247

AUDIO — The Center for Cassette Studies
8110 Webb Avenue
North Hollywood, CA 95605

CM — Concept Media
1500 Adams Ave.
Costa Mesa, CA 92626

CMI — Creative Media, Inc.
National Traveler's Life Bldg.
Desmonds, IA 50301

C5 — Cinema 5
595 Madison Ave.
New York, NY 10022

CRM — CRM Films
1104 Camino
Del Mar, CA 92014

DENT — Wayne State University, Dent Project
College of Lifelong Learning
Detroit, MI 48202

EBEC — Encyclopedia Britannica Education Corp.
425 North Michigan Ave.
Chicago, IL 60611

FI — Films, Inc.
1144 Wilmette Ave.
Wilmette, IL 60091

FML	FILMAKERS Library, Inc. 133 East 58th Street Suite 703A New York, NY 10022
GR	Grimm Films, Inc. P. O. Box 1811 San Francisco, CA 94101
IFB	International Film Bureau, Inc. 332 South Michigan Ave. Chicago, IL 60604
IDWA	University of Iowa Audio Visual Media Library C-5 East Hall Iowa City, IA 52240
ISU	Iowa State University Media Resource Center 121 Pearson Hall Ames, IA 50010
IU	Indiana University Audio-Visual Center Bloomington, IN 47401
JF	Journal Films, Inc. 930 Pitner Ave. Evanston, IL 60202
KDIN	KDIN-TV 2801 Beil Ave. Desmonds, IA 50221
MCHFI	McGraw-Hill Films Dept. 455 1221 Avenue of the Americas New York, NY 10020
MGF	Medical Film Guild, Ltd. 506 West 57th Street New York, NY 10022
MTI	MTI Teleprograms, Inc. 4825 North Scott Street Suite 23 Schieler Park, IL 60176
NAVC	National Audio Visual Center General Services Administration Order Section, NACDO Washington, D.C. 20409

NAMC — National Medical Audiovisual Center (Annex)
Station K
Atlanta, GA 30324

NTSU — Gerontology Film Collection
Main Library
North Texas State University
Denton, TX 76203

PSU — Pennsylvania State University
Audio-Visual Extended Services
6 Willard Bldg.
University Park, PA 16802

Roche Laboratories
Division of Hoffman-LaRoche Industries
Nutley, NH 07110

Sandoz Pharmaceuticals
Division of Sandoz-Wander
59 State Highway 10
Hanover, NJ 07963

TJC — Tulie Jones Communications
10718 Riverside Drive
Hollywood, CA 91602

TLF — Time-Life Films
Time and Life Building
Rockefeller Center
1271 Avenue of the Americas
New York, NY 10020

TLM — Time-Life Multimedia
100 Eisenhower Drive
P. O. Box 644
Paramus, NJ 07652

TRAINEX — Trainex Corporation
P. O. Box 116
Garden Grove, CA 92642

UARIZ — University of Arizona
Bureau of Audiovisual Services
Tucson, AZ 85721

UCEMC — University of California
Extension Media Center
Berkley, CA 94720

United Hospital Fund
3 East 54th Street
New York, NY 10022

UM/IOG Institute of Gerontology
University of Michigan, Publications
520 E. Liberty Street
Ann Arbor, MI 48109

UM/TV University of Michigan
Audio-Visual Center
416 Fourth Street
Ann Arbor, MI 48109

UPJOHN Upjohn Professional Film Library
7000 Portage Road
Kalamazoo, MI 49001

USC University of Southern California
Division of Cinema/Film Distribution Center
University Park
Los Angeles, CA 90007

UW University of Wisconsin
Bureau of Audiovisual Instruction
P. O. Box 2093
Madison, WI 53701

WGBH WGBH
125 Western Avenue
Boston, MA 02134

WBPI William Brase Productions, Inc.
3168 Oakshire Drive
Hollywood, CA 90068

WSU Wayne State University
Audiovisual Production Center
680 Putnam
Detroit, MI 48202

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Balija, J.J. and Hedrick, H.L. Allied Health Education (9th ed.). Monroe, WI: American Medical Association, 1980.

Butler, R.N. Meeting the challenges of health care for the elderly. Journal of Allied Health, 1980, 9(3), 161-168.

Cates, N. Undergraduate education of the allied health professions: Gerontology and improving the quality of health care for the elderly. Journal of Allied Health, 1980, 6(1): 45-53.

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Ernst, M. Processes and procedures for developing a gerontology curriculum. Proceedings of the Texas Society of Allied Health Professions Conference. Dallas, Texas. October, 1980.

Ernst, N. (Ed.) Public Policy: Economic and legal concerns. Dallas: UTHSCD, 1980.

Governor's Committee on Aging. Biennial Report. Austin, TX: Governor's Committee on Aging, 1980.

Harris, C.S. Fact book on aging: A profile of America's older population. Washington, D.C.: National Council on Aging, 1979.

Health Careers in Texas. Austin, TX: Texas Hospital Education and Research Foundation, 1980.

Helmer, O. The use of the Delphi technique in problems of educational innovation (P-3499). Santa Monica, CA: Rand Corporation, 1966.

Hickey, T. Continuing education in gerontology for allied health. Journal of Allied Health, 1975, 4(3), 5-12.

Holsti, O.R. Content analysis. In G. Lindzey and E. Aronson (Ed.), The handbook of social psychology (Vol. II, 2nd ed.). Reading, MS: Addison-Wesley Publising Co., 1968, 596-692.

Kaiser, H.F. The varimax criterion for analytic rotation in factor analysis. Psychometrika, 1958, 23, 187-200.

Kappelman, M.M., Bartnick, L.A., Cahn, B. and Rapoport, M.I. A nontraditional geriatric teaching model: Interprofessional service/education sites. Journal of Medical Education, 1981, 56(6), 467-477.

Kerlinger, F.N. Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart and Winston, Inc., 1973.

National Commission on Allied Health Education. The future of allied health education: New Alliances for the 1980s. San Francisco: Jossey-Bass Publishers, 1980.

Nechasek, J.E. and Carboni, D.K. The impact of a gerontology curriculum in a college of health sciences. Journal of Allied Health, 1980, 9(2), 95-101.

Papsidero, J.A., Kroger, M.H. and Rothert, M. Preparing health assistants for service roles in long-term care. Gerontologist, 1980, 20(5), 534-46.

Reinhardt, U. Medicare: Its financing and future. American Economic Review, 1979, 69(2), 279-283.

Robinson, B.C. CE needs in geriatrics and gerontology for selected health professionals. Mobius, 1981, 1(2), 20-35.

Thomas, A.M. and Ship, I.I. Current status of geriatric education in American dental schools. Journal of Dental Education, 1981, 43(9), 589-591.

U.S. Department of Health and Human Services. Perspectives on geriatric medicine. Washington, DC: U.S. Government Printing Office, 1979, (NIH 81-1924).

Figures and Tables

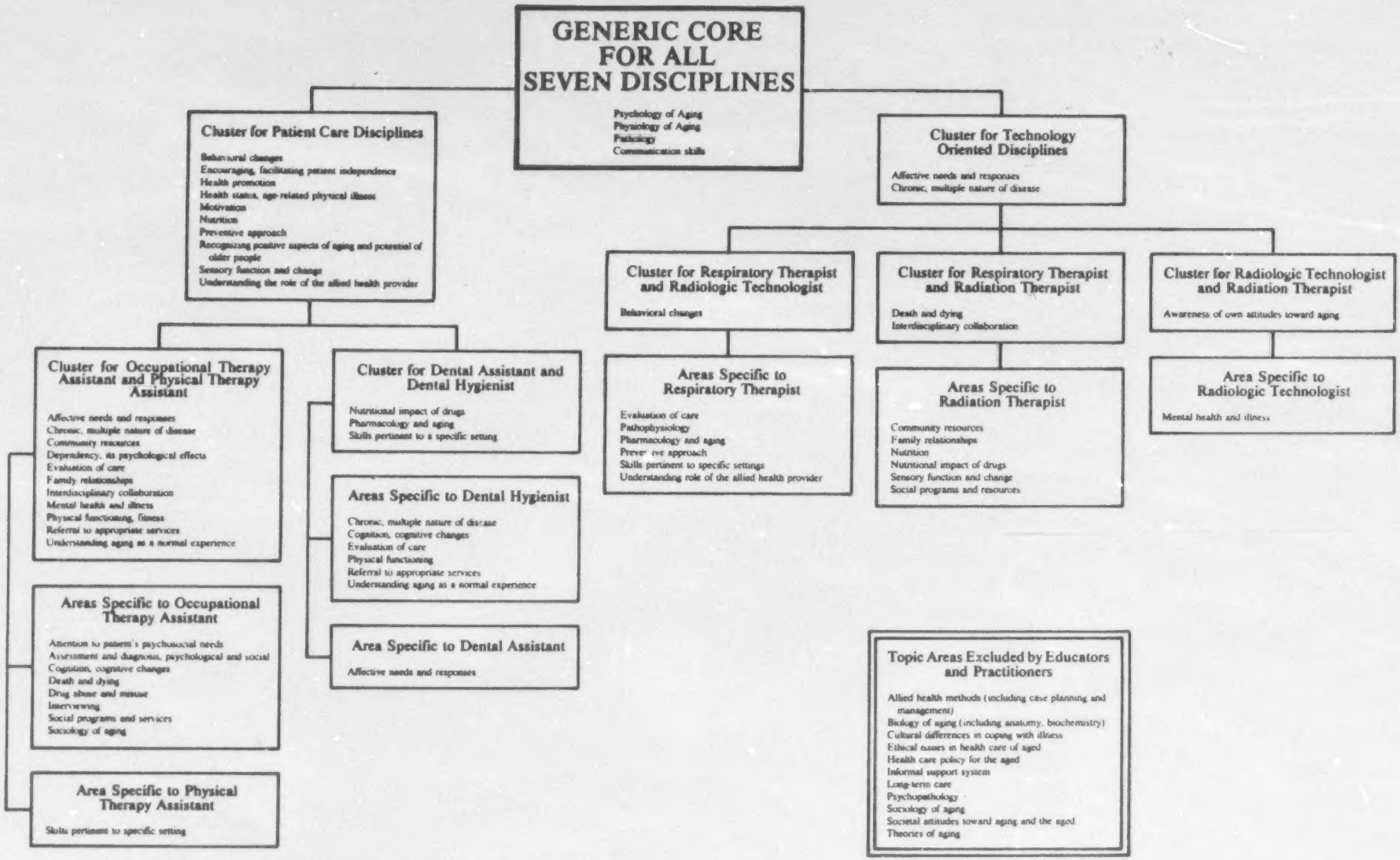
GENERIC CORE FOR ALL SEVEN DISCIPLINES
Psychology of Aging
Physiology of Aging
Pathology
Communication skills
Cluster for Patient Care Disciplines
Behavioral changes
Encouraging, facilitating patient independence
Health promotion
Health status, age-related physical illness
Motivation
Nutrition
Preventive approach
Recognizing positive aspects of aging and potential of older people
Sensory function and change
Understanding the role of the allied health provider
Cluster for Technology Oriented Disciplines
Affective needs and responses
Chronic, multiple nature of disease
Cluster for Occupational Therapy Assistant and Physical Therapy Assistant
Affective needs and responses
Chronic, multiple nature of disease
Community resources
Dependency, its psychological effects
Evaluation of care
Family relationships
Interdisciplinary collaboration
Mental health and illness
Physical functioning, fitness
Referral to appropriate services
Understanding aging as a normal experience
Cluster for Dental Assistant and Dental Hygienist
Nutritional impact of drugs
Pharmacology and aging
Skills pertinent to a specific setting
Cluster for Respiratory Therapist and Radiologic Technologist
Behavioral changes
Cluster for Respiratory Therapist and Radiation Therapist
Death and dying
Interdisciplinary collaboration
Cluster for Radiologic Technologist and Radiation Therapist
Awareness of own attitudes toward aging
Areas Specific to Occupational Therapy Assistant
Attention to patient's psychosocial needs
Assessment and diagnosis, psychological and social
Cognition, cognitive changes
Death and dying
Drug abuse and misuse
Interviewing
Social programs and services
Sociology of aging
Areas Specific to Dental Hygienist
Chronic, multiple nature of disease
Cognition, cognitive changes
Evaluation of care
Physical functioning
Referral to appropriate services
Understanding aging as a normal experience
Areas Specific to Respiratory Therapist
Evaluation of care
Pathophysiology
Pharmacology and aging
Preventive approach
Skills pertinent to specific settings
Understanding role of the allied health provider
Areas Specific to Radiation Therapist
Community resources
Family relationships
Nutrition
Nutritional impact of drugs
Sensory function and change
Social programs and resources
Area Specific to Radiologic Technologist
Mental health and illness
Area Specific to Physical Therapy Assistant
Skills pertinent to specific setting
Area Specific to Dental Assistant
Affective needs and responses
Topic Areas Excluded by Educators and Practitioners
Allied health methods (including case planning and management)
Biology of aging (including anatomy, biochemistry)
Cultural differences in coping with illness
Ethical issues in health care of aged
Health care policy for the aged
Informal support system
Long-term care
Psychopathology
Sociology of aging
Societal attitudes toward aging and the aged
Theories of aging

Figure 1: Core and Cluster of Gerontology Topics for Seven Allied Health Disciplines

TABLE 1

Results of Content Analysis of Guidelines/Essentials

Publication	Space* Allocation	Key words/phrases
Radiation Therapy Tech.	.0%/12** = 0	None
Occupational Therapist	6.67%/20 = .0033	Death, Gerontology
Occupational Therapy Assist.	22.86%/12 = .0191	Death, Aged, Aging
Physical Therapist Assist.	.0%/2 = 0	None
Dental Assisting	.06%/6 = 0	None
Dental Hygiene Essentials	.0%/6 = 0	None
Respiratory Therapy	.0%/7 = 0	None
Radiologic Technology	42.42%/151 = .0028	Geriatric, Elderly, Senile
Dental Hygiene Guidelines	36.84%/460 = .0008	Old age, elderly, aging, geriatric

*Space allocation is the percentage of lines in the total number of pages within the publication.

**Number of pages of guidelines/essentials specifying curriculum requirements.

Table 2

Results of Delphi of Advisory Committee

Mean	Frequency					
	1	2	3	4	5	
	most		undecided		least	Topics
1.8	5	7	2	0	0	Psychology of aging
2.1	5	5	2	2	0	Physiology of aging
2.2	4	3	7	0	0	Health promotion and maintenance for aged
2.3	3	4	7	0	0	Nutrition
2.4	1	6	7	0	0	Affective needs and responses, e.g., fear, anxiety, loneliness
2.5	2	5	5	2	0	Behavioral changes
2.6	3	3	7	1	0	Sociology of aging
2.6	2	2	9	1	0	Pharmacology and aging (including drug interactions)
2.6	2	2	9	1	0	Physical functioning, fitness, e.g., mobility, activity, personal care
2.7	1	1	10	0	2	Theories of aging
2.7	1	4	7	1	1	Death and dying, e.g., grief, needs of the dying
2.7	0	4	10	0	0	Cognition, cognitive changes (including implications for patient education)
2.8	1	3	9	0	1	Health status, age-related (physical) illness
2.8	1	4	7	1	1	Dependency, its psychological effects
2.8	1	1	12	0	0	Societal attitudes toward aging and aged
2.8	2	2	7	3	0	Motivation
2.9	2	1	8	3	0	Chronic, multiple nature of diseases
2.9	0	4	9	0	1	Economics of aging*

Table 2 continued:

Mean	Frequency					
	1 most	2	3 undecided	4	5 least	Topics
2.9	1	2	9	2	0	Cultural differences in coping with illness
2.9	1	2	10	0	1	Family relationships
2.9	0	3	10	1	0	Socio-economic influences*
2.9	0	2	10	1	0	Bias against chronic illness*
2.9	0	2	12	0	0	Environment and aging*
2.9	1	2	8	3	0	Ethical issues in health care of aged
2.9	0	1	13	0	0	Social aspects of health care*
2.9	1	1	10	2	0	Community resources
2.9	0	4	9	0	1	Specific diseases, e.g., arthritis, cardiovascular disease, stroke*
2.9	1	1	10	2	0	Social programs and services
2.9	0	3	9	2	0	Stress or loss, response to it*
2.9	2	2	3	1	4	Basic sciences (chemistry, physics, math)*
2.9	0	4	8	1	1	Sensory function and change (including pain)
3.0	0	0	10	4	0	Socio-cultural context of aging*
3.0	2	2	4	4	1	Pathology (disease processes)
3.0	1	2	8	2	1	Nutritional impact of drugs
3.0	0	2	8	2	2	Sexuality*
3.0	0	2	8	4	0	Health care costs, methods of payment*
3.1	0	3	7	4	0	Life-span developmental approach*
3.1	0	4	5	1	4	Biology of aging (including anatomy, biochemistry)**
3.1	1	1	9	2	1	Health care policy for aged
3.1	0	1	11	1	1	Environment, health, and safety*
3.1	1	1	8	3	1	Psychopathology

Table 2 continued:

Mean	Frequency					
	1 most	2	3 undecided	4	5 least	Topics
3.1	1	0	8	4	0	Long-term care
3.1	0	2	8	2	2	Health care delivery system, general*
3.2	0	2	8	3	1	Personality*
3.2	2	1	5	4	2	Pathophysiology
3.2	0	1	11	0	2	Health care setting*
3.2	0	3	7	2	2	Informal support system**
3.3	0	1	10	1	2	Psychopharmacology*
3.3	1	1	6	5	1	Drug abuse and misuse (including alcohol)
3.4	1	1	7	2	3	Institutionalization*
3.4	0	2	7	4	1	Home health care*
3.5	0	6	0	1	6	Mental health and illness, e.g., confusion, depression, senile dementias**
3.5	1	0	7	2	3	Psychophysiology, psychobiology*
3.5	0	0	9	3	2	Sex differences in functioning*
3.5	0	1	8	2	3	Environment and behavior*
3.6	0	0	7	6	1	Developmental tasks, major life events*

*Not included in survey instrument.
**Included in survey because of availability of response rather than criteria.

Table 2 continued:

Skill Areas

Mean	Frequency					
	1 most	2	3 undecided	4	5 least	Topics
1.4	10	1	2	0	0	Communicating, working with elderly
2.2	5	2	5	1	0	Recognizing positive aspects of aging and potential of older people
2.3	4	3	4	2	0	Encouraging, facilitating patient's independence, e.g., personal care
2.5	0	7	6	0	0	Attention to patient's psycho-social status and needs
2.5	0	5	7	2	0	Assessment and diagnosis, physical*
2.5	3	1	10	0	0	Understanding aging as normal experience
2.5	3	4	6	0	0	Awareness of own attitudes toward aging and aged
2.6	0	1	8	2	2	Group techniques, e.g., reality orientation*
2.6	1	4	8	1	0	Evaluation of care
2.7	1	2	11	0	0	Skills pertinent to specific setting, e.g., home health care, ward care
2.8	1	2	10	1	0	Referral to appropriate services
2.8	0	4	9	1	0	Rehabilitation and physical therapy*
2.8	1	1	12	0	0	Understanding role of allied health provider
2.8	1	2	12	1	0	Preventive approach
2.8	0	4	9	1	0	Counseling patient's relatives, friends*
2.8	0	3	10	0	0	Counseling elderly*
2.8	1	1	10	1	0	Allied health methods (including case planning and management)
2.9	1	1	10	2	0	Interviewing
3.0	0	1	12	1	0	Health education of elderly*
3.0	0	2	11	0	1	Physical care of long-term patients*

Table 2 continued:

Mean	Frequency					
	1 most	2	3 undecided	4	5 least	Topics
3.0	1	1	10	1	1	Assessment and diagnosis, psychological and social
3.0	0	3	8	3	0	Interdisciplinary collaboration**
3.0	0	1	11	2	0	Intervention techniques*
3.4	0	1	7	4	1	Advocacy*
3.5	0	0	8	4	2	Familiarity with role of other professionals*
3.6	1	0	6	4	3	Supervising other health providers*
3.8	0	0	5	4	4	Public health*
3.8	0	0	6	4	4	Group dynamics*
3.8	0	0	6	4	4	Research utilization*
3.8	0	0	6	5	3	Pain control*
3.8	0	0	5	4	3	Report writing*

Table 3

Sampling Plan and Response Rates
for Seven Allied Health Disciplines for
Educators and Practitioners

Educational (Nationally) Programs	Original Mailing	% Sample	Actual Returns	% Return
Dental Assistant, U.S	398	50%	43	12.9%
Dental Hygienist, U.S.	209	100%	81	38.8%
Radiological Technologist**	337	100%	64	19.0%
Physical Therapy Assistant, U.S.	64	100%	19	29.6%
Respiratory Therapist, U.S.	333	100%	94	28.2%
Occupational Therapist, U.S.	55	100%	20	36.4%
Total	1316		341	25.9%

Practitioners (Texas only)	Original Mailing	% Sample	Actual Returns	% Returns
Dental Assistants	147	25%	33	22.4%
Dental Hygienists	114	10%	43	37.7%
Physical Therapy Assistants	144	100%	30	20.8%
Occupational Therapy Assistants	150	100%	29	19.3%
Radiological Technology**	182	3%	35	19.2%
Respiratory Therapists	187	100%	36	19.2%
Total	924		206	22.2%

*Includes radiation therapist programs.

**All educational programs in Texas were included in the original mailing. Non-college-based radiologic technology programs were not included.

Table 4

Distribution of Patients' Ages by Discipline for Educators

Patient Ages	Dental Assistant (N = 37)	Dental Hygienist (N = 70)	Occupational Therapy Assistant (N = 16)	Physical Therapy Assistant (N = 17)	Radiologic Technologist (N = 54)	Radiation Therapist (N = 18)	Respiratory Therapist (N = 92)
0 - 12	13.7% (13.49)	10.21% (5.99)	12.0% (10.76)	10.23% (7.03)	6.63% (4.87)	4.17% (2.18)	10.65% (7.37)
13 - 19	16.92% (15.3)	12.47% (9.80)	9.82% (5.69)	6.47% (4.15)	6.96% (4.3)	4.94% (4.44)	5.24% (3.77)
20 - 35	24.03% (17.64)	25.16% (12.05)	13.88% (3.49)	19.06% (17.52)	13.22% (6.59)	11.72% (3.53)	8.70% (5.12)
36 - 50	19.27% (11.05)	24.61% (10.13)	17.63% (9.78)	21.47% (10.25)	21.02% (7.47)	21.56% (7.11)	19.22% (12.3)
51 - 64	13.19% (9.35)	16.17% (7.72)	15.75% (8.73)	17.65% (8.27)	23.25% (8.05)	29.5% (4.20)	24.59% (12.41)
65 79	7.46% (8.05)	9.81% (8.41)	19.38% (11.87)	19.59% (9.69)	22.62% (11.11)	23.1% (8.17)	22.63% (11.34)
Over 80	1.83% (2.50)	3.84% (11.35)	7.50% (6.55)	5.00% (4.14)	7.22% (4.87)	4.83% (2.79)	7.01% (5.98)

The standard deviation is given in parentheses.

Table 5

Distribution of Patients' Ages by Discipline for Practitioners

Patient Ages	Dental Assistant (N = 30)	Dental Hygienist (N = 13)	Occupational Therapy Assistant (N = 29)	Physical Therapy Assistant (N = 33)	Radiologic Technologist (N = 25)	Radiation Therapist (N = 10)	Respiratory Therapist (N = 36)
0 - 12	14.7% (20.06)	11.67% (16.08)	24.04% (40.25)	2.94% (4.53)	7.08% (9.16)	2.80% (3.36)	10.0% (15.4)
13 - 19	17.97% (20.82)	11.07% (8.81)	9.21% (20.73)	6.15% (6.59)	3.76% (3.50)	2.90% (3.31)	3.33% (2.68)
20 - 35	24.03% (21.06)	34.58% (92.3)	15.36% (17.51)	18.03% (16.28)	15.16% (8.26)	8.90% (8.18)	11.72% (12.58)
36 - 50	24.43% (19.25)	28.44% (15.93)	16.90% (20.87)	21.06% (13.86)	22.60% (13.26)	18.3% (12.11)	17.72% (8.87)
51 - 64	11.63% (11.77)	18.56% (11.97)	13.45% (14.31)	19.76% (13.67)	24.48% (11.35)	32.5% (16.2)	22.64% (10.61)
65 79	6.13% (6.43)	7.51% (6.27)	18.41% (25.2)	19.54% (18.60)	19.56% (12.50)	26.00% (11.25)	27.44% (17.21)
Over 80	1.1% (1.83)	1.77% (3.33)	4.78% (12.11)	12.24% (21.74)	8.56% (10.51)	8.60% (5.12)	7.63% (7.29)

The standard deviation is given in parentheses.

Table 6

Percent of Respondents by Discipline for the Forty-Eight Potential Topic Areas

	Dental Assistants		Dental Hygienists		Occupation Therapy Aides		Physical Therapy Aides		Radiologic Technologists		Radiation Therapists		Respirator Therapists	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P
1.	72	28	95	80	100	94	94	91	77	81	84	73	80	81
2.	72	28	93	95	100	92	94	100	87	90	79	83	90	95
3.	83	17	92	95	100	83	76	91	19	58	63	67	67	74
4.	97	3	99	98	79	76	88	71	10	45	100	92	60	67
5.	95	5	89	68	100	94	100	94	90	87	100	92	81	81
6.	78	22	86	79	95	91	100	86	74	77	65	92	77	79
7.	59	41	74	53	78	83	93	63	32	52	40	58	43	45
8.	75	25	88	89	53	73	75	68	20	61	45	58	78	90
9.	66	34	70	91	100	97	100	100	44	74	50	83	64	86
10.	46	54	42	30	74	57	71	49	26	39	32	25	36	37
11.	50	50	35	26	95	80	94	68	79	52	100	92	99	81
12.	70	30	88	84	100	83	88	61	28	53	47	36	55	55
13.	82	18	88	95	94	83	93	97	59	80	53	73	66	85
14.	54	46	58	37	94	78	87	85	38	53	45	73	53	64
15.	58	42	73	35	100	64	80	47	40	43	50	64	56	45
16.	77	23	88	91	82	86	87	100	26	63	58	73	51	69
17.	62	38	76	82	89	78	93	91	73	80	79	82	89	98
18.	46	54	40	35	67	63	67	65	37	57	65	54	43	45
19.	59	41	47	35	80	83	93	82	37	53	80	82	59	67
20.	59	41	70	49	82	64	87	56	52	54	65	54	65	67
21.	56	44	89	49	94	83	87	79	12	40	70	82	48	55
22.	59	41	68	39	94	83	67	88	12	50	70	73	45	51
23.	72	28	83	86	94	89	100	97	65	80	72	91	60	66
24.	80	20	86	95	89	75	100	94	97	87	95	91	98	98

Table 6 continued:

	Dental Assistants		Dental Hygienists		Occupation Therapy Aides		Physical Therapy Aides		Radiologic Technologists		Radiation Therapists		Respiratory Therapists	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P
25.	83	75	72	89	50	72	50	53	10	40	84	73	80	81
26.	44	54	60	82	69	67	64	88	57	77	79	83	90	95
27.	66	72	67	68	78	66	69	68	13	40	63	67	67	74
28.	71	35	37	36	72	66	75	65	20	50	100	92	60	67
29.	32	70	46	51	94	67	64	71	10	50	100	92	81	81
30.	30	37	36	42	65	60	64	70	44	63	65	92	77	79
31.	36	36	28	29	75	60	46	47	7	30	40	58	43	45
32.	71	67	56	71	100	81	57	50	25	53	45	58	78	90
33.	75	65	76	65	100	97	100	91	73	83	50	83	64	86
34.	95	90	99	96	100	94	86	97	92	80	32	25	36	37
35.	78	70	82	72	100	92	92	97	39	70	100	92	99	81
36.	75	85	79	88	100	100	100	97	20	63	47	36	55	55
37.	42	56	65	47	100	97	29	82	36	50	53	73	66	85
38.	67	74	86	70	100	92	100	79	52	58	45	73	53	64
39.	78	82	89	74	100	94	93	82	74	77	50	64	56	45
40.	68	88	75	78	72	86	86	94	32	67	58	73	51	69
41.	76	72	70	86	65	69	86	88	32	55	79	82	89	98
42.	68	72	71	75	72	83	78	85	5	48	65	54	43	45
43.	78	80	85	75	88	86	78	79	56	55	80	82	59	67
44.	89	95	96	100	83	86	77	85	16	45	65	54	65	67
45.	53	72	58	48	82	68	77	69	18	39	70	82	48	55
46.	43	65	62	23	94	78	75	47	15	36	70	73	45	51
47.	37	62	46	44	83	89	54	78	15	50	72	91	60	66
48.	50	44	68	30	94	78	91	70	27	34	95	91	98	98

*The percentages reported in this table were used to create the core curriculum and the various clusters of related topics. % has been excluded to save space in the table.

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Table 7

Percentage of Positive Responses to General Aging Questions

Profession	10. Do you feel that gerontological topics should be required in the basic preparation for your heatlh care profession?				11. Do you feel that patients over 65 have problems or conditions that are differer from patients under age 65?			
	Educators		Practitioners		Educators		Practitioners	
Dental Assistant	72.1% *	(43)	82.5%	(40)	83.7%	(43)	87.5%	(40)
Dental Hygienist	95%	(80)	85.9%	(57)	95%	(80)	91.1%	(56)
Occupational Therapy Assistant	95%	(20)	94.6%	(37)	94.4%	(18)	91.4%	(35)
Physical Therapy Assistant	100%	(20)	87.5%	(30)	89.5%	(19)	87.9%	(33)
Radiologic Technologist	81.2%	(64)	96.7%	(30)	90.5%	(63)	96.7%	(30)
Radiation Therapist	80%	(20)	83.3%	(12)	85%	(20)	90.9%	(11)
Respiratory Therapist	73%	(93)	79.1%	(43)	87.1%	(93)	97.7%	(44)

*Represents both definitely yes and yes responses. Sample size is presented in parentheses.

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Table 8

Summary of Teaching Strategies for the Forty-Eight Topic Areas in Percentages Terms

Topic Area	# of Programs	Experience Only	Lab Only	Lab + Experience	Teacher Only	Teacher + Experience	Teacher + Lab	Teacher + Lab + Experience
1	173	5.2	5.8	1.7	58.3	13.3	4.6	10.9
2	186	1.6	5.9	2.7	59.6	12.4	5.9	11.8
3	115	3.5	6.1	1.7	50.4	11.3	9.6	17.4
4	132	2.3	5.3	1.5	62.1	10.6	12.1	6.1
5	175	8.0	8.0	4.0	46.3	13.7	8.6	13.1
6	133	10.5	9.0	3.7	48.9	9.0	3.7	15.0
7	75	2.7	6.7	1.3	72.0	2.7	4.0	10.7
8	107	4.7	5.6	1.9	58.9	11.2	11.2	6.5
9	109	10.1	7.3	1.8	39.4	21.1	5.5	14.7
10	47	4.2	4.2	0.0	80.9	6.4	2.1	2.1
11	154	1.9	4.5	.1	62.9	7.1	7.8	14.9
12	95	8.4	6.3	4.2	41.1	18.9	5.3	15.8
13	130	8.5	6.9	0.1	49.2	15.4	6.1	13.1
14	73	9.6	2.7	0.0	64.4	13.7	4.1	5.5
15	86	8.1	3.5	0.0	75.6	5.8	1.1	5.8
16	95	11.6	5.3	2.1	38.9	17.9	4.2	17.9
17	145	5.5	5.5	0.1	53.8	8.9	6.9	18.6
18	57	12.3	1.8	0.0	59.6	8.8	3.5	14.0
19	79	7.6	3.8	2.5	55.7	11.4	7.6	11.4
20	90	6.7	4.4	2.2	64.4	5.6	4.4	12.2
21	78	16.7	6.4	1.3	59.0	19.2	6.4	14.1
22	77	15.6	5.2	2.6	49.3	18.2	2.6	6.5

Table 8 Continued:

Topic Area	# of Programs	Experience Only	Lab Only	Lab + Experience	Teacher Only	Teacher + Experience	Teacher + Lab	Teacher + Lab + Experience
23	99	5.0	3.0	6.0	69.6	15.1	7.1	0.0
24	205	1.0	2.4	0.0	63.4	11.7	13.6	13.7
25	72	4.2	11.1	0.0	72.2	2.8	5.6	4.2
26	84	1.2	7.1	0.0	75.0	3.6	7.1	6.0
27	62	9.7	1.6	0.0	80.6	4.8	1.6	1.6
28	37	18.9	5.4	0.0	48.6	5.4	5.4	16.2
29	65	13.8	9.2	9.2	43.1	6.2	7.7	10.8
30	77	1.3	5.2	0.0	53.2	5.2	16.9	18.2
31	31	16.1	9.7	3.2	45.2	6.4	6.4	12.8
32	67	7.5	2.9	4.5	70.1	8.9	0.0	6.0
33	107	7.5	5.6	0.1	58.9	10.3	0.1	15.9
34	170	14.7	5.3	4.7	25.9	12.3	8.2	28.8
35	75	16.0	5.3	1.3	37.3	14.7	2.7	22.7
36	98	12.2	11.2	4.1	27.6	11.2	6.1	27.6
37	90	12.2	5.6	4.4	36.7	16.7	3.3	21.1
38	92	8.7	4.3	2.2	62.0	9.8	2.2	10.8
39	101	12.9	5.9	2.9	48.5	13.9	1.0	14.9
40	96	11.6	12.5	5.2	16.7	8.3	9.4	36.4
41	84	10.7	8.3	3.6	26.2	13.1	10.7	27.4
42	61	16.4	13.1	13.1	34.4	9.8	0.0	13.1
43	111	1.8	5.4	3.6	47.7	9.0	5.4	27.0
44	111	0.1	5.4	0.1	44.1	9.9	9.9	28.8

Table 8 Continued:

Topic Area	# of Programs	Experience Only	Lab Only	Lab + Experience	Teacher Only	Teacher + Experience	Teacher + Lab	Teacher + Lab + Experience
45	73	2.7	9.6	1.4	35.6	9.6	12.3	28.8
46	76	10.5	6.6	2.6	19.7	18.4	10.5	31.6
47	58	6.9	5.2	3.4	24.1	6.9	13.8	39.6
48	72	9.7	8.3	6.9	23.6	11.1	8.3	31.9
Mean		8.30	6.15	2.35	50.85	10.78	6.30	15.73
SD		4.96	2.60	2.58	16.49	4.58	3.89	9.37

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Table 9

Reported Time Spent Teaching for the Seven Allied Health Disciplines in the Forty-Eight Topic Areas

Topic Area	Dental Assistant		Dental Hygienist		Occupational Therapy Assistant		Physical Therapy Assistant		Radiologic Technologist		Radiation Therapist		Respiratory Therapist		Average Length of Instruction*	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	Mean	SD
1. Psychology of aging	11	2.77	38	4.2	15	5.20	12	5.04	12	2.04	2	2.0	28	8.50	4.25	2.30
2. Physiology of aging	9	2.77	37	4.65	14	5.71	12	3.83	21	4.19	7	4.71	42	6.74	4.66	1.28
3. Health promotion & maintenance for aged	13	2.38	22	1.95	13	3.38	4	9.62	2	3.00	3	1.83	15	3.83	3.71	2.71
4. Nutrition	24	10.42	37	6.46	6	1.25	6	1.42		0	9	4.22	13	8.27	5.34	3.71
5. Affective needs & responses (including fear anxiety, loneliness)	16	6.34	25	1.70	12	3.54	6	3.33	23	15.74	7	16.07	32	8.23	7.85	5.90
6. Behavioral changes	10	3.45	21	1.81	11	1.82	8	2.69	16	2.03	1	2.0	17	2.41	2.31	.60
7. Sociology of aging	3	1.67	17	2.09	11	1.41	3	1.00	2	6.25	1	2.0	8	4.25	2.67	1.89
8. Pharmacology & aging (including drug interactions)	15	4.90	24	2.25	3	1.83	7	3.50	5	2.80	3	1.67	27	4.46	3.06	1.27
9. Physical functioning, fitness (including mobility, activity, personal care)	10	2.65	21	1.31	14	9.22	7	5.14	8	8.06	3	15.5	17	4.03	6.56	4.84

Table 9 continued:

Topic Area	(N=42) Dental Assistant		(N=81) Dental Hygienist		(N=20) Occupational Therapy Assistant		(N=19) Physical Therapy Assistant		(N=64) Radiologic Technologist		(N=20) Radiation Therapist		(N=94) Respiratory Therapist		Average Length of Instruction	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	Mean	SD
10. Theories of aging	3	1.67	4	.88	9	2.66	7	1.14	1	1.00	1	2.0	6	3.83	1.88	1.06
11. Death & dying (including grief, needs of the dying	5	4.40	4	1.75	14	4.39	13	3.38	21	2.07	12	15.75	58	11.41	6.16	5.32
12. Cognition, cognitive changes (including implications for patient education)	10	4.35	19	1.69	14	2.36	8	2.06		0	1	2.0	13	2.69	2.52	.96
13. Health status, age-related (physical) illness	13	2.76	26	2.85	9	2.66	4	10.75	11	4.32	2	2.50	18	4.62	4.35	2.95
14. Dependency, its psychological effects	5	1.40	7	1.07	10	1.90	3	.83	4	1.00	2	1.25	13	2.73	1.45	.66
15. Societal attitudes toward aging & aged	8	1.00	16	1.69	11	1.87	6	1.33	4	.88	2	.75	13	2.42	1.42	.61
16. Motivation	13	6.38	19	1.92	8	4.12	5	5.60	4	.88	1	2.0	14	3.68	3.51	2.03
17. Chronic, multiple nature of disease	8	4.38	20	2.45	12	3.50	5	14.60	17	5.79	4	23.5	35	13.56	9.68	7.79
18. Cultural differences in coping with illness	5	1.50	5	1.90	6	1.67	4	2.25	6	1.92	2	1.0	11	14.86	3.59	4.99

Table 9 continued:

Topic Area	(N=42) Dental Assistant		(N=81) Dental Hygienist		(N=20) Occupational Therapy Assistant		(N=19) Physical Therapy Assistant		(N=64) Radiologic Technologist		(N=20) Radiation Therapist		(N=94) Respiratory Therapist		Average Length of Instruction	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	Mean	SD
19. Family relationships	7	2.42	6	2.33	7	1.79	5	2.20	6	5.58	7	3.93	20	5.62	3.41	1.64
20. Ethical issues in health care of aged	3	1.33	9	1.28	4	1.13	5	1.80	10	4.60	3	4.0	27	6.35	2.93	2.06
21. Community resources	6	2.17	24	2.63	12	4.0	7	2.86	3	1.17	4	2.25	11	1.77	2.41	.90
22. Social programs and services	6	1.66	13	3.23	11	6.09	5	3.60	3	1.17	5	1.46	10	1.95	2.74	1.74
23. Sensory function & change (including pain)	6	2.75	22	2.20	12	3.67	6	8.91	8	2.19	3	2.33	14	3.03	3.58	2.41
24. Pathology (disease processes)	18	6.67	26	5.19	9	8.11	10	7.80	33	11.28	11	12.36	45	15.49	9.56	3.62
25. Nutritional impact of drugs	9	1.88	15	2.10	1	1.0	3	1.83		0	5	3.50	9	3.22	2.26	.94
26. Biology of aging (including anatomy biochemistry)	2	3.00	11	1.64	5	22.6	4	5.88	14	2.07	4	16.0	17	5.82	8.14	8.03
27. Health care policy for aged	5	2.30	12	1.33	6	1.27	5	2.80	1	.5	1	4.0	10	1.75	1.99	1.16
28. Psychopathology		0	2	4.50	7	5.57	4	1.50	0		15	6.0	9	2.28	3.97	1.99
29. Long-term care	3	2.33	3	1.33	11	23.41	4	10.25	2	.5	3	2.0	17	3.36	6.17	8.26
30. Pathophysiology		0	5	3.60	4	2.12	3	17.67	6	15.0	1	6.0	38	31.15	12.59	11.04
31. Informal support system	1	1.0	2	5.0	5	1.30	1	3.00	1	.5	4	1.75	6	1.65	2.03	1.52

Table 9 continued:

Topic Area	(N=42) Dental Assistant		(N=81) Dental Hygienist		(N=20) Occupational Therapy Assistant		(N=19) Physical Therapy Assistant		(N=64) Radiologic Technologist		(N=20) Radiation Therapist		(N=94) Respiratory Therapist		Average Length of Instruction	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	Mean	SD
32. Drug abuse & misuse (including alcohol)	6	2.33	5	3.60	7	2.07	4	2.75	4	1.0	2	1.50	13	4.08	2.48	1.10
33. Mental health & illness (e.g., confusion, depression, senile dementias)	7	1.36	17	1.38	14	7.86	10	3.70	9	2.0	1	8.0	16	5.75	4.29	2.92
34. Communicating, working with elderly	14	6.61	24	3.86	11	4.23	8	4.87	22	4.91	4	10.5	28	25.48	8.64	7.76
35. Recognizing positive aspects of aging & potential of older people	6	1.08	10	2.40	10	3.40	6	5.08	3	1.0	1	10.0	6	2.25	3.60	3.15
36. Encouraging, facilitating patient's independence (personal care)	4	8.00	17	1.56	10	6.95	5	8.80	3	4.0	3	8.0	19	12.26	7.08	3.45
37. Attention to patient's psycho-social status and needs	1	1.0	11	1.86	9	5.61	6	6.08	7	3.14	2	11.5	19	62.31	13.07	21.99
38. Understanding aging as normal experience	6	.83	16	1.56	8	4.13	7	3.93	5	.80	1	2.0	10	1.75	2.14	1.36
39. Awareness of own attitudes toward aging and aged	8	1.38	16	1.41	10	3.05	5	.90	10	.95	3	4.50	13	2.00	2.02	1.31
40. Evaluation of care	5	3.10	12	2.96	7	5.14	5	10.60	5	7.7	1	10.0	23	24.52	9.14	7.44

Table 9 continued:

Topic Area	(N=42) Dental Assistant		(N=81) Dental Hygienist		(N=20) Occupational Therapy Assistant		(N=19) Physical Therapy Assistant		(N=64) Radiologic Technologist		(N=20) Radiation Therapist		(N=94) Respiratory Therapist		Average Length of Instruction	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	Mean	SD
41. Skills pertinent to specific setting (including home health care, ward care)	5	10.0	12	2.54	7	12.86	5	9.60	1	1.0	2	6.50	24	10.21	7.53	4.37
42. Referral to appropriate services	1	1.0	8	1.56	8	2.00	5	8.90		0	4	1.62	7	3.36	3.07	2.96
43. Understanding role of allied health provider provider	5	1.70	13	1.50	8	3.62	5	2.90	10	12.35	7	4.14	25	5.26	4.50	3.71
44. Preventive approach	14	8.28	24	5.73	7	2.50	5	4.60	3	1.17	1	2.0	19	7.73	4.57	2.82
45. Allied health methods (including case planning and management)	1	2.00	8	6.00	8	6.38	6	9.00			4	30.12	17	16.12	11.60	10.21
46. Interviewing	2	2.0	10	2.80	11	5.73	4	3.25		0	2	2.0	16	5.59	3.56	1.70
47. Assessment and diagnosis, psychological and social	2	2.5	4	4.50	11	6.23	3	2.40	1	2.0	1	5.0	12	15.79	5.49	4.80
48. Interdisciplinary collaboration	1	4.0	7	5.36	8	7.69	7	4.71	3	2.50	3	13.33	18	11.22	6.97	3.99
Mean Length of Instruction by discipline		3.18 *		2.69		4.79		4.99		3.68		6.18		8.53		
S.D.		2.44		1.46		4.56		3.74		3.87		6.32		10.33		

*Represents the average of the means, or an unweighted mean.

Table 10

Comparison of All Educators and Practitioners on Forty-Eight Potential Curriculum Areas: A Discrepancy Analysis

	Topic Area	Mean Ratings		t	df	Prob
		Educators	Practitioners			
1.	Psychology of aging	1.78(.82)	1.91(.80)	-1.81	596	.07
2.	Physiology of aging	1.71(.80)	1.66(.78)	.76	598	.45
3.	Health promotion & maintenance for aged	2.17(1.01)	1.89(.91)	3.50	586	.0005 *
4.	Nutrition	2.14(1.10)	1.91(.97)	2.69	600	.007 *
5.	Affective needs & responses (including fear, anxiety, loneliness)	1.75(.74)	1.82(.80)	-1.08	592	.28
6.	Behavioral changes	2.01(.81)	1.96(.81)	.66	583	.51
7.	Sociology of aging	2.52(.98)	2.44(.92)	.93	583	.35
8.	Pharmacology & aging (including drug interactions)	2.24(1.02)	1.96(.93)	3.38	589	.001 *
9.	Physical functioning, fitness (including mobility, activity, personal care)	2.24(.99)	1.72(.78)	6.88	585	.0001 *
10.	Theories of aging	2.81(1.02)	2.78(1.0)	.32	582	.75 *
11.	Death & dying (including grief, needs of the dying)	1.96(1.09)	2.36(1.19)	-4.16	593	.0001 *
12.	Cognition, cognitive changes (including implications for patient education)	2.27 (.98)	2.24(.82)	.44	579	.66 *
13.	Health status, age-related (physical) illness	2.07(.92)	1.88(.69)	2.63	583	.009 *

Table 10 Continued:

Topic Area	Mean Ratings: Educators	Mean Ratings: Practitioners	t	df	Prob
14. Dependency, its psychological effects	2.50(.95)	2.44(.96)	.79	575	.43
15. Societal attitudes toward aging & aged	2.47(1.02)	2.62(1.02)	-1.79	577	.073
16. Motivation	2.36(.97)	1.84(.83)	6.88	580	.0001 *
17. Chronic, multiple nature of disease	2.03(.90)	1.98(.77)	.75	581	.45
18. Cultural differences in coping with illness	2.71(1.0)	2.61(1.0)	1.26	575	.21
19. Family relationships	2.51(1.02)	2.38(1.06)	1.51	574	.13
20. Ethical issues in health care of aged	2.26(.95)	2.45(.98)	-2.36	581	.018 *
21. Community resources	2.48(1.14)	2.38(1.04)	1.04	583	.297
22. Social programs & services	2.62(1.15)	2.46(1.06)	1.77	578	.078
23. Sensory function & change (including pain)	2.21(.96)	1.86(.78)	4.62	577	.0001 *
24. Pathology (disease processes)	1.68(.78)	1.82(.74)	-2.29	581	.022 *
25. Nutritional impact of drugs	2.57(1.07)	2.19(.97)	4.42	579	.0001 *
26. Biology of aging (including anatomy, biochemistry)	2.41(1.0)	2.11(.89)	3.74	576	.0002 *
27. Health care policy for aged	2.69(1.08)	2.38(.95)	3.51	576	.0005 *
28. Psychopathology	2.85(1.0)	2.64(.90)	2.63	568	.0088 *
29. Long-term care	2.66(1.05)	2.40(1.0)	3.08	580	.0022 *

Table 10 Continued:

Topic Area	Mean Ratings: Educators	Mean Ratings: Practitioners	t	df	Prob
30. Pathophysiology	2.51(1.07)	2.42(.84)	1.11	567	.27
31. Informal support system	2.94(.92)	2.76(.85)	2.47	561	.014 *
32. Drug abuse & misuse (including alcohol)	2.63(1.08)	2.40(.97)	2.72	576	.017 *
33. Mental health & illness (e.g., confusion, depression, senile dementias)	2.16(.91)	2.02(.94)	1.88	580	.061
34. Communicating, working with elderly	1.76(.74)	1.67(.80)	1.42	594	.153
35. Recognizing positive aspects of aging & potential of older people	2.28(1.06)	2.02(.90)	3.21	576	.0014 *
36. Encouraging, facilitating patient's independence (personal care)	2.30(1.03)	1.81(.87)	6.12	582	.0001 *
37. Attention to patient's psycho-social status and needs	2.39(1.02)	2.27(.99)	1.39	577	.164
38. Understanding aging as normal experience	2.20(.96)	2.14(.88)	.81	585	.417
39. Awareness of own attitudes toward aging and aged	2.00(.86)	1.98(.85)	.32	587	.753
40. Evaluation of care	2.32(1.03)	2.01(.80)	3.95	576	.0001 *
41. Skills pertinent to specific setting, (including home health care, ward care)	2.39(1.10)	2.09(.94)	3.42	579	.0007 *
42. Referral to appropriate services	2.66(1.09)	2.19(.91)	5.62	579	.0001 *
43. Understanding role of allied health provider	2.08(.92)	2.12(.83)	-.48	582	.628

Table 10 Continued:

Topic Area	Mean Ratings: Educators	Mean Ratings: Practitioners	t	df	Prob
44. Preventive approach	2.24(1.14)	1.85(.84)	4.60	581	.0001 *
45. Allied health methods (including case planning and management)	2.63(1.12)	2.36(.98)	3.01	573	.0027 *
46. Interviewing	2.66(1.15)	2.62(1.01)	.34	582	.737
47. Assessment and diagnosis, psychological and social	2.79(1.18)	2.38(1.02)	4.41	572	.0001 *
48. Interdisciplinary collaboration	2.35(1.03)	2.45(1.01)	-1.18	571	.240

Standard deviations are indicated in the parentheses. The degrees of freedom vary slightly due to missing data.

*Probability at least .05 or beyond (two-tailed).

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Table 11

Comparison of Educators and Practitioners on Forty-Eight Potential Curriculum Areas: A Discrepancy Analysis by Discipline*

Topic Area	Dental Assistant	Dental Hygienist	Occupational Therapy Assistant	Physical Therapy Assistant	Radiologic Technologist	Radiation Therapist	Respiratory Therapist
1. Psychology of aging		sig. E+	sig. E+				
2. Physiology of aging			sig. E+				
3. Health promotion & maintenance for aged			sig. E+		sig. P+		
4. Nutrition					sig. P+		
5. Affective needs & responses (including fear, anxiety, loneliness)		sig. E+					
6. Behavioral changes						sig. P+	
7. Sociology of aging		sig. E+					
8. Pharmacology & aging (including drug interactions)					sig. P+		
9. Physical functioning, fitness (including mobility, activity, personal care)		sig. E+			sig. P+	sig. P+	sig. P+
10. Theories of aging					sig. P+		
11. Death & dying (including grief, needs of the dying				sig. E+			sig. P+
12. Cognition, cognitive changes (including implications for patient education)		sig. E+	sig. E+		sig P+		
13. Health status, age-related (physical) illness					sig P+		sig. P+

Table 11 continued:

Topic Area	Dental Assistant	Dental Hygienist	Occupational Therapy Assistant	Physical Therapy Assistant	Radiologic Technologist	Radiation Therapist	Respiratory Therapist
14. Dependency, its psychological effects		sig. E+	sig. E+				
15. Societal attitudes toward aging & aged		sig. E+	sig. E+				
16. Motivation				sig. P+	sig. P+		
17. Chronic, multiple nature of disease			sig. E+		sig. P+		
18. Cultural differences in coping with illness					sig. P+		
19. Family relationships		sig. E+					
20. Ethical issues in health care of aged		sig. E+		sig. E+			
21. Community resources		sig. E+			sig. P+		
22. Social programs and services		sig. E+			sig. P+		
23. Sensory function & change (including pain)					sig. P+		
24. Pathology (disease processes)			sig. E+				
25. Nutritional impact of drugs		sig. P+			sig. P+		
26. Biology of aging (including anatomy, biochemistry)		sig. P+			sig. P+		
27. Health care policy for aged					sig. P+		
28. Psychopathology					sig. P+		
29. Long-term care	sig. P+		sig. E+		sig. P+		

Table 11 continued:

Topic Area	Dental Assistant	Dental Hygienist	Occupational Therapy Assistant	Physical Therapy Assistant	Radiologic Technologist	Radiation Therapist	Respiratory Therapist
30. Pathophysiology					sig. P+	sig. P+	
31. Informal support system					sig. P+		
32. Drug abuse & misuse (including alcohol)			sig. E+		sig. P+		
33. Mental health & illness (e.g., confusion, depression, senile dementias)							
34. Communicating, working with elderly							
35. Recognizing positive aspects of aging & potential of older people					sig. P+	sig. P+	
36. Encouraging, facilitating patient's independence (personal care)					sig. P+		
37. Attention to patient's psycho-social status and needs		sig. E+					
38. Understanding aging as normal experience		sig. E+					
39. Awareness of own attitudes toward aging and aged		sig. E+	sig. E+				
40. Evaluation of care	sig. P+				sig. P+		
41. Skills pertinent to specific setting (including home health care, ward care)					sig. P+		
42. Referral to appropriate services	sig. P+				sig. P+		
43. Understanding role of allied health provider							

Table 11 continued:

Topic Area	Dental Assistant	Dental Hygienist	Occupational Therapy Assistant	Physical Therapy Assistant	Radiologic Technologist	Radiation Therapist	Respiratory Therapist
44. Preventive approach					sig. P+		sig. P+
45. Allied health methods (including case planning and management)	sig. P+				sig. P+		
46. Interviewing		sig. E+	sig. E+		sig. P+		
47. Assessment and diagnosis, psychological and social	sig. P+				sig. P+		
48. Interdisciplinary collaboration		sig. E+					
Total Significant Comparisons	5	18	12	3	30	4	4

*Only those comparisons that were significant at or beyond the .05 level (two-tailed) are listed. P+ should be intepreted as meaning that the mean difference favored the practitioners; E+ should be similarly interpreted.

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Table 12

Three-Factor Varimax Rotated Solution For All Educators

Factor One

Community resources
Drug abuse and misuse
Encouraging patient's independence
Evaluation of care
Health care policy for aged
Interviewing
Nutrition
Nutritional impact of drugs
Pharmacology and aging
Preventive approach
Referral to appropriate services
Skills pertinent to specific settings
Social program and services

Other Salient Items

Health promotion
Physical functioning, fitness
Cognition, cognitive changes
Societal attitudes toward aging
Long-term care
Informal support system
Allied health methods
Assessment and diagnosis, psychological and social
Interdisciplinary collaboration

Factor Two

Affective needs and responses
Attention to psychosocial status
Awareness of own atttudes
Behavioral changes
Communicating with elderly
Dependency, its psychological effects
Family relationships
Health status, age-related illness
Mental health and illness
Physiology of aging
Psychology of aging
Recognizing positive aspects of aging
Sensory function and change
Societal attitudes toward aging
Sociology of aging
Theories of aging
Understanding aging as normal experience

Other Salient Items

Health promotion
Physical functioning, fitness
Cognition, cognitive changes
Motivation
Informal support system

Factor Three

Biology of aging
Chronic, multiple nature of disease
Death and dying
Pathology
Pathophysiology

Other Salient Items

Cultural differences in illness coping
Informal support system
Assessment and diagnosis, psychological and social
Interdisciplinary collaboration

Table 13

Five-Factor Varimax Rotated Solution for All Educators

Factor I

Nutrition
Pharmacology and aging
Motivation
Nutritional impact of drugs
Health care policy for aged
Drug abuse and misuse
Evaluation of care
Skills pertinent to specific setting
Referral to appropriate services
Preventive approach
Interviewing

Other Salient Items

Health promotion
Cognition, cognitive changes
Community resources
Social programs and services
Long-term care
Informal support system
Encouraging patient's independence
Allied health methods
Assessment and diagnosis, psychological and social
Interdisciplinary collaboration

Factor II

Psychology of aging
Physiology of aging
Affective needs and responses
Behavioral changes
Sociology of aging
Theories of aging
Health status, age-related illness
Sensory function and change

Other Salient Items

Health promotion
Physical functioning, fitness
Cognition, cognitive changes
Dependency, its psychological effects
Societal attitudes toward aging

Factor III

Death and dying
Chronic, multiple nature of disease
Pathology
Biology of aging
Psychopathology
Pathophysiology

Other Salient Items

Long-term care
Allied health methods
Assessment and diagnosis, psychological and social
Interdisciplinary collaboration

Factor IV

Cultural differences
Family relationships

Other Salient Items

Dependency, its psychological effects
Societal attitudes toward aging
Community resources
Social programs and services
Informal support system

Factor V

Communicating, working with the elderly
Recognizing positive aspects of aging
Understanding aging as normal experience
Attention to psychosocial needs
Awareness of own attitudes

Table 14

Three-Factor Varimax Rotated Solution for All Practitioners

Factor One

Affective needs and responses
Attention to psychosocial status
Awareness of own attitudes
Behavioral changes
Community resources
Cultural differences
Death and dying
Dependency, its psychological effects
Ethical issues
Family relationships
Informal support system
Mental health and illness
Psychology of aging
Recognizing positive aspects of aging
Social programs and services
Societal attitudes toward aging
Sociology of aging
Understanding aging as normal experience

Other salient items

Psychopathology
Encouraging patient's independence
Interviewing
Interdisciplinary collaboration

Factor Two

Biology of aging
Chronic, multiple nature of disease
Health status, age-related illness
Pathology
Pathophysiology
Pharmacology and aging
Physiology of aging
Sensory function and change

Other salient items

Nutritional impact of drugs
Psychopathology

Factor Three

Allied health methods
Evaluation of care
Health care policy for aged
Long-term care
Nutrition
Preventive approach
Referral to appropriate services
Skills pertinent ot specific setting
Understanding role of allied health provider

Other Salient Items

Nutritional impact of drugs
Encouraging patient's independence
Assessment and diagnosis, psychological and social
Interviewing

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Table 15

Five-Factor Varimax Rotated Solution for all Practitioners

Factor One

Topics Unique to Factor One

Psychology of Aging
Affective needs and responses
Behavioral changes
Mental health and illness
Communicating, working with elderly
Recognizing positive aspects of aging
Encouraging patient's independence
Attention to psychosocial status
Understanding aging as normal experience
Awareness of own attitudes

Other salient items

Sociology of aging
Theories of aging
Death and dying
Dependency, its psychological effects
Societal attitudes toward aging

Factor Three

Evaluation of care
Skills pertinent to specific setting
Referral to appropriate services
Allied health methods
Interviewing
Assessment and diagnosis, psychological and social
Interdisciplinary collaboration

Other salient items

Understanding role of the allied health provider

Factor Two

Topics Unique to Factor Two

Physiology of Aging
Health status, age-related illness
Chronic, multiple nature of disease
Ethical issues
Sensory function and change
Pathology
Biology of aging
Pathophysiology

Other salient items

Pharmacology and aging
Nutritional impact of drugs
Psychopathology

Factor Four

Topics Unique to Factor Four

Cultural differences
Family relationships
Community resources
Social programs and services

Other salient items

Sociology of aging
Theories of aging
Death and dying
Dependency, its psychological effects
Societal attitudes toward aging
Psychopathology

Factor Five

Topics Unique to Factor Five

Health promotion
Nutrition
Health care policy for aged
Long-term care
Preventive approach

Other salient items

Pharmacology of aging
Nutritional impact of drugs
Understanding role of the allied health provider

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Appendix A

Educator and Practitioner Questionnaires

GERONTOLOGY EDUCATION SURVEY

SECTION I: BACKGROUND INFORMATION

Please answer the following questions concerning your background and educational program.

1. What is your allied health specialty? (Check one)

_____	dental assistant	_____	radiologic technologist
_____	dental hygienist	_____	radiation therapist
_____	occupational therapy assistant	_____	respiratory therapist
_____	physical therapy assistant	_____	other, please specify _____

2. What is your faculty title? _____

3. What is your highest academic degree? (Check one)

_____	Associate degree	_____	Masters degree
_____	Bachelors degree	_____	Doctorate degree

4. How many years of teaching/administrative experience do you have? _____

5. How many years of clinical experience do you have? _____

6. What is your age to your nearest birthdate? _____

7. Are you _____ male or _____ female?

8. How many clock hours does the "typical student" in your program spend in the following clinical settings prior to graduation?

_____	Hospital	_____	Home health agency
_____	School Clinic	_____	HMO (Health Maintenance Organization)
_____	Private practice	_____	Business or industrial clinic
_____	Nursing home	_____	Other, please specify _____

9. Please estimate the amount of patient contact (in percentage terms) that your "typical student" has prior to graduation according to the following patient age groups.

Percent	Patient Ages	Percent	Patient Ages
_____	0-12	_____	51-64
_____	13-19	_____	65-79
_____	20-35	_____	over 80
_____	36-50	100%	TOTAL TIME IN CLINICAL SETTINGS

Note: Your percentage estimates should total 100%.

10. Do you feel gerontological topics should be required in the basic preparation for your health care profession? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

If you were undecided or felt that these topics should not be required, could these topics be included in the basic preparation for your health care profession if an instructor so desired? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

If you answered "definitely yes" or "yes" to one or both of the questions above how many hours of instruction are needed? _____

11. Do you feel patients over age 65 have problems or conditions that make them different from patients under age 65? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

SECTION II: POTENTIAL AND ACTUAL GERONTOLOGY CURRICULUM TOPICS

Listed in this section are a series of statements describing a number of gerontology knowledge and skill areas which may be appropriate for the curricula of various allied health professions. We need your expertise in determining which of these areas are the most important in your field. We also need to determine which of these topics are currently being taught in your program and the instructional approach used.

DIRECTIONS: Please read carefully through the list of topic areas. For each area, rate its importance to your allied health field in Column 1 using the following scheme:

SI Strongly feel this topic should be included in curriculum

I This topic could be included in curriculum

U Undecided about topic

E This topic could be excluded from curriculum

SE Strongly feel this topic should be excluded from curriculum

Then, in Column 2, place a check mark ( ) if the area is currently included in your curriculum.

If the area is checked ( ), Column 3 and 4 are to be completed.

In Column 3, circle how the topic is taught in your curriculum. You may wish to circle more than one method. Please use the following scheme:

T Topic taught in classroom by teacher

CL Topic taught in clinic by teacher

E Topic taught in clinic through experience

In Column 4, indicate the number of clock hours of instruction devoted to this topic for the typical student.

At the end of Section II, space has been provided for you to include any topic areas that we have omitted. For each area that you include here, please rate its importance (Column 1) and complete columns 2, 3, 4 as before.

1 Importance (Circle one)	2 If Taught ( )	3 How Taught (Circle)	4 Time Spent (hours)	Topic Areas
SI I U E SE	_____	T CL E	_____	Psychology of aging
SI I U E SE	_____	T CL E	_____	Physiology of aging
SI I U E SE	_____	T CL E	_____	Health promotion & maintenance for aged
SI I U E SE	_____	T CL E	_____	Nutrition
SI I U E SE	_____	T CL E	_____	Affective needs & responses (including fear, anxiety, loneliness)
SI I U E SE	_____	T CL E	_____	Behavioral changes
SI I U E SE	_____	T CL E	_____	Sociology of aging
SI I U E SE	_____	T CL E	_____	Pharmacology & aging (including drug interactions)
SI I U E SE	_____	T CL E	_____	Physical functioning, fitness (including mobility, activity, personal care)
SI I U E SE	_____	T CL E	_____	Theories of aging
SI I U E SE	_____	T CL E	_____	Death & dying (including grief, needs of the dying)
SI I U E SE	_____	T CL E	_____	Cognition, cognitive changes (including implications for patient education)
SI I U E SE	_____	T CL E	_____	Health status, age-related (physical) illness
SI I U E SE	_____	T CL E	_____	Dependency, its psychological effects
SI I U E SE	_____	T CL E	_____	Societal attitudes toward aging & aged
SI I U E SE	_____	T CL E	_____	Motivation
SI I U E SE	_____	T CL E	_____	Chronic, multiple nature of diseases
SI I U E SE	_____	T CL E	_____	Cultural differences in coping with illness
SI I U E SE	_____	T CL E	_____	Family relationships
SI I U E SE	_____	T CL E	_____	Ethical issues in health care of aged
SI I U E SE	_____	T CL E	_____	Community resources
SI I U E SE	_____	T CL E	_____	Social programs & services

1 Importance (Circle one)	2 If Taught ( )	3 How Taught (Circle)	4 Time Spent (hours)	Topic Areas
SI I U E SE	_____	T CL E	_____	Sensory function & change (including pain)
SI I U E SE	_____	T CL E	_____	Pathology (disease processes)
SI I U E SE	_____	T CL E	_____	Nutritional impact of drugs
SI I U E SE	_____	T CL E	_____	Biology of aging (including anatomy, biochemistry)
SI I U E SE	_____	T CL E	_____	Health care policy for aged
SI I U E SE	_____	T CL E	_____	Psychopathology
SI I U E SE	_____	T CL E	_____	Long-term care
SI I U E SE	_____	T CL E	_____	Pathophysiology
SI I U E SE	_____	T CL E	_____	Informal support system
SI I U E SE	_____	T CL E	_____	Drug abuse & misuse (including alcohol)
SI I U E SE	_____	T CL E	_____	Mental health & illness (e.g., confusion, depression, senile dementias)
SI I U E SE	_____	T CL E	_____	Communicating, working with elderly
SI I U E SE	_____	T CL E	_____	Recognizing positive aspects of aging & potential of older people
SI I U E SE	_____	T CL E	_____	Encouraging, facilitating patient's independence (personal care)
SI I U E SE	_____	T CL E	_____	Attention to patient's psycho-social status and needs
SI I U E SE	_____	T CL E	_____	Understanding aging as normal experience
SI I U E SE	_____	T CL E	_____	Awareness of own attitudes toward aging and aged
SI I U E SE	_____	T CL E	_____	Evaluation of care
SI I U E SE	_____	T CL E	_____	Skills pertinent to specific setting, (including home health care, ward care)
SI I U E SE	_____	T CL E	_____	Referral to appropriate services
SI I U E SE	_____	T CL E	_____	Understanding role of allied health provider

1 Importance (Circle one)	2 If Taught ( )	3 How Taught (Circle)	4 Time Spent (hours)	Topic Areas
SI I U E SE	_____	T CL E	_____	Preventive approach
SI I U E SE	_____	T CL E	_____	Allied health methods (including case planning and management)
SI I U E SE	_____	T CL E	_____	Interviewing
SI I U E SE	_____	T CL E	_____	Assessment and diagnosis, psychological and social
SI I U E SE	_____	T CL E	_____	Interdisciplinary collaboration
				ADDITIONAL AREAS, IF NEEDED:
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____
SI I U E SE	_____	T CL E	_____	_____

SECTION III: CURRENT AND NEEDED EDUCATIONAL MATERIALS

It has been suggested that a sharing network of allied health instructors in gerontology be formed. Please answer the following questions so that we can determine if sufficient interest exists for this activity.

What teaching materials or texts do you currently use to teach gerontology? Please list.

_____

_____

_____

_____

Do you have materials you have developed and are willing to share? ___ Yes ___ No

If yes, please list and describe. _____

_____

_____

_____

_____

What materials/texts would you like to see developed in this area? Please describe.

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your help. Please mail your completed questionnaire in the addressed, stamped envelope.

Please send me a copy of the final report for this Gerontology Education Survey when it is completed.

Name _____ Address _____

_____

_____

Health specialty _____

GERONTOLOGY AND CLINICAL PRACTICE SURVEY

SECTION I: BACKGROUND INFORMATION

Please answer the following questions.

1. What is your allied health specialty?

_____

2. How many years of clinical experience do you have? _____

3. What is your highest academic degree? (Check one)

_____	Associate degree	_____	Masters degree
_____	Bachelors degree	_____	Doctorate degree

4. Are you a male or female? _____ male _____ female.

5. What is your age to your nearest birthday? _____

6. In each of the following settings, how many hours per week are you employed in patient care?

Hours	Settings	Hours	Settings
_____	Hospital	_____	Home health agency
_____	Private practice	_____	HMO (Health Maintenance Organization)
_____	Clinic	_____	Business or industrial clinic
_____	Nursing home	_____	Other setting, please specify _____
_____	TOTAL HOURS PER WEEK	_____	

7. Please estimate the amount of patient contact (in percentage terms) that you have in a typical week with the following age groups of patients.

Percent	Patients Ages	Percent	Patient Ages
_____	0-12	_____	36-50
_____	13-19	_____	51-64
_____	20-35	_____	65-79
		_____	over 80
		100%	TOTAL PATIENT CONTACT

Note: Your percentage estimates should add up to 100%.

8. If you cannot answer Question 7, check the response that most accurately describes your reason.

_____ Do not know _____ Not employed in patient care

_____ Currently unemployed _____ Other, please specify _____

9. Do you have a faculty affiliation at an educational institution?

_____ Yes _____ No

If you answered yes, what type of institution is it?

_____ Community College _____ School (or college) attached to a medical school or health science center

_____ Four-year College _____ Proprietary health school

_____ University _____ Other, please specify _____

10. Do you feel gerontological topics should be required in the basic preparation for your health care profession? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

If you answered "definitely yes" or "yes" to Question 10, how many clock hours of instruction are needed? _____

If you were undecided or felt these topics should not be required, could these topics be included in the basic preparation for your health care profession if an instructor so desired? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

11. Do you feel patients over age 65 have problems or conditions that are different from patients under age 65? (Check one)

___ definitely yes ___ yes ___ undecided ___ no ___ definitely no

12. Have you had any training in gerontology topics? (Check all that apply)

_____ No _____ In classes beyond basic preparation

_____ In the basic preparation for my specialty _____ Through my own reading and studying

_____ In continuing education _____ Other, _____

SECTION II: POTENTIAL GERONTOLOGY PRACTICE TOPICS

Listed on the next two pages are a series of statements describing a number of gerontology content and skill areas which may be appropriate for various allied health professions. We would like your help in determining which of these areas are the most important to clinical practice in your field.

DIRECTIONS: Please carefully read through the entire list of topic areas. For each area, rate its importance to clinical practice in your allied health field using the following scheme:

VI	Very Important to clinical practice in my field
I	Important to clinical practice in my field
U	Undecided about its importance
N	Not important to clinical practice in my field
VU	Very important to clinical practice in my field

At the end of Section II, space has been provided for you to include any topic areas that you feel we have omitted. For each area that you include, please rate its importance as before.

TOPICS

VI I U N VU	Psychology of aging
VI I U N VU	Physiology of aging
VI I U N VU	Health promotion and maintenance for aged
VI I U N VU	Nutrition
VI I U N VU	Affective needs and responses, (including fear, anxiety, loneliness)
VI I U N VU	Behavioral changes
VI I U N VU	Sociology of aging
VI I U N VU	Pharmacology & aging (including drug interactions)
VI I U N VU	Physical functioning, fitness, (including mobility, activity, personal care)
VI I U N VU	Theories of aging
VI I U N VU	Death and dying, e.g., grief, needs of the dying

VI I U N VU	Cognition, cognitive changes (including implications for patient education)
VI I U N VU	Health status, age-related (physical) illness
VI I U N VU	Dependency and its psychological effects
VI I U N VU	Societal attitudes toward aging and aged
VI I U N VU	Motivation
VI I U N VU	Chronic, multiple nature of diseases
VI I U N VU	Cultural differences in coping with illness
VI I U N VU	Family relationships
VI I U N VU	Ethical issues in health care of aged
VI I U N VU	Community resources
VI I U N VU	Social programs and services
VI I U N VU	Sensory function and change (including pain)
VI I U N VU	Pathology (disease processes)
VI I U N VU	Nutritional impact of drugs
VI I U N VU	Biology of aging (including anatomy, biochemistry)
VI I U N VU	Health care policy for aged
VI I U N VU	Psychopathology
VI I U N VU	Long-term care
VI I U N VU	Pathophysiology
VI I U N VU	Informal support system
VI I U N VU	Drug abuse and misuse (including alcohol)
VI I U N VU	Mental health and illness (confusion, depression, senile dementias)
VI I U N VU	Communicating, working with elderly
VI I U N VU	Recognizing positive aspects of aging & potential of older people
VI I U N VU	Encouraging, facilitating patient's independence, (personal care)
VI I U N VU	Attention to patient's psycho-social status and needs

VI I U N VU Understanding aging as normal experience

VI I U N VU Awareness of own attitudes toward aging and aged

VI I U N VU Evaluation of care

VI I U N VU Skills pertinent to specific setting (including home health care and ward care)

VI I U N VU Referral to appropriate services

VI I U N VU Understanding role of allied health provider

VI I U N VU Preventive approach

VI I U N VU Allied health methods (including case planning and management)

VI I U N VU Interviewing

VI I U N VU Assessment and diagnosis, psychological and social

VI I U N VU Interdisciplinary collaboration

ADDITIONAL AREAS:

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

VI I U N VU _____

_____

Thank you for your help. Please mail your completed questionnaire in the addressed, stamped envelope.

Please send me a copy of the final report for this Gerontology and Clinical Practice Survey when it is completed.

Name _____ Address _____

_____

_____

Health specialty _____

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